DAMAGE BOOK

DAMAGE BOOK

THE INTERNATIONAL GOLD PROBLEM

THE INTERNATIONAL GOLD PROBLEM

COLLECTED PAPERS

A Record of the Discussions of a Study Group of Members of the Royal Institute of International Affairs
1929–1931

OXFORD UNIVERSITY PRESS
LONDON: HUMPHREY MILFORD
Issued under the auspices of the Royal Institute of International Affairs
1931

OXFORD UNIVERSITY PRESS
AMEN HOUSE, E.C. 4
LONDON EDINBURGH GLASGOW
LEIPZIG NEW YORK TORONTO
MELBOURNE CAPETOWN BOMBAY
CALCUTTA MADRAS SHANGHAI
HUMPHREY MILFORD
PUBLISHER TO THE
UNIVERSITY

PRINTED IN GREAT BRITAIN

FOREWORD

IN December, 1929, the Council of the Royal Institute of International Affairs authorized the formation of a Group to study 'The International Functions of Gold'. The membership of the Group included representatives of as many interests as possible. It included bankers, politicians, civil servants, economists, industrialists, and a due proportion of non-specialists in financial or commercial matters.

The magnitude of the subject and the divergence of views held upon the question of the Gold Problem have been factors influencing the methods of work of this Group. The Group met at intervals for over a year and was privileged to hear a number of interesting papers which gave rise to fruitful discussions. The records of the meetings were circulated to members of the Group, many of whom have paid tribute to the value they have derived from these documents.

A considerable amount of material upon the Gold Problem, as a result of these discussions, has been collected at Chatham House and the Council of the Institute decided, subject to the consent of the contributors, to publish a selection of this material. The views and opinions of many of the best authorities in the country are thus made available to the public in this volume.

The reader should bear in mind that this collection of documents claims to be no more than a representation of thought upon certain aspects of the Gold Problem. It does not attempt to reach final conclusions; it lays no emphasis upon any particular point of view. It is a collection of material which it is hoped will be of use to all those who are making a study of this important international economic problem. The Royal Institute of International Affairs may also claim that it is an indication of the valuable results which can be obtained from the method of Group Study now in process of development at Chatham House.

NEILL MALCOLM,
Chairman of the Council of the Royal Institute of International Affairs.

CHATHAM HOUSE,
10 ST. JAMES'S SQUARE,
LONDON, S.W. 1.
July, 1931.

INTRODUCTION

THE working of the post-war International Gold Standard since the Brussels Conference of 1920 has given rise to a series of problems which have engaged the attention of economists, industrialists, bankers, and politicians. It was to co-ordinate individual study of these problems that the Gold Group of Chatham House was formed.

This book is a record of the papers, discussions, and comments which have come into being as a result of the work of the Group. The documents are supplemented by an Index and a carefully selected Bibliography.

The reader of this volume will find that threads of thought run through it which, if followed, will lead him to the world monetary crisis of 1931.

The suspension of the Gold Standard by the British Government on the 20th September, 1931, brought home to millions of persons in every quarter of the globe the essentially practical bearing of the problems which are discussed in this volume by distinguished representatives of many schools of thought and of several nationalities.

In the near future it will be necessary for decisions to be taken as to the monetary policy, not only of this country, but of the whole world. The creation of a sound policy necessitates the existence of well-instructed public opinion. It is therefore of the highest importance that at the present moment a comprehensive selection of information and opinion on the International Functions of Gold should be at the disposal of every thinking person.

MEMBERS OF THE GROUP WHO HAVE CONTRIBUTED MATERIAL TO THIS VOLUME

Sir Charles Addis, K.C.M.G.
Mr. D. Barber.
Mr. G. H. Baxter.
Mr. J. R. Bellerby.
Mr. H. V. Berry.
Sir Basil Blackett, K.C.B., K.C.S.I.
The Hon. R. H. Brand, C.M.G.
Dr. W. H. Coates.
Mr. N. Crump.
Dr. P. Einzig.
Mr. O. Fleming.
Mr. A. W. Flux, C.B.
Mr. E. L. Franklin.
Mr. R. G. Glenday, M.C.
Professor T. E. Gregory.
Mr. E. L. Hargreaves.
Mr. R. F. Harrod.
Mr. R. G. Hawtrey.
Mr. H. D. Henderson.
Mr. W. J. Hinton.
Mr. H. V. Hodson.
Mr. D. G. Hutton.
Mr. D. T. Jack.
Mr. J. M. Keynes, C.B.
Mr. A. W. Kiddy.
Commander S. King-Hall, R.N.
Mr. C. Kisch, C.B.
Mr. J. Kitchin.
Mr. E. M. H. Lloyd.
Mr. W. H. Mainwaring.
Mr. W. Milne-Bailey.
Mr. J. T. W. Newbold.
Sir Otto Niemeyer, G.B.E., K.C.B.
Dr. M. Palyi.
Mr. J. H. Penson, M.C.
Monsieur C. Rist.
Mr. D. H. Robertson.
Mr. G. D. Rokeling.
Sir Arthur Salter, K.C.B.
Dr. O. M. Sprague.
Sir Josiah Stamp, G.B.E.
Lieut.-Col. Sir Albert Stern, K.B.E., C.M.G.
Sir Henry Strakosch, G.B.E.
Mr. S. D. Waley, M.C.
Mr. H. Withers.

The Council of Chatham House desire to express their appreciation of the services rendered by the above-mentioned contributors.

CONTENTS

Papers delivered before the Chatham House Study Group on the International Functions of Gold, 1929–1931. Each paper is followed by a report of the discussion and a selection of comments on the proceedings.

APPENDIX

First Meeting of the Chatham House Study Group on the International Functions of Gold, 5th December, 1929.

THE INTERNATIONAL FUNCTIONS OF GOLD

INTRODUCTORY SURVEY

BY SIR JOSIAH STAMP, G.B.E.

SIR CHARLES ADDIS, K.C.M.G., in the Chair.

THE CHAIRMAN, SIR CHARLES ADDIS: This is the first of a series of meetings to discuss the international uses of gold. Sir Josiah Stamp will this evening make a preliminary survey of the question, and it is intended to have subsequent discussions at intervals of about a month. A record of the discussions will be circulated among members of the group so that those who are present but unable to take part in the discussion, as well as those who are unable to be present, may contribute their critical or constructive observations in writing. It is hoped in this way to achieve by successive stages a more continuous and intensive study of the subject than is possible by isolated debate.

SIR JOSIAH STAMP: I have only under pressure agreed to introduce this series of meetings, because I am quite sure that those present know more about the subject than I do. However, some one has got to make a start, and in the modern theatre the curtain usually goes up on a butler or housemaid!

Before I get into the subject I should like to say that I think it is extremely important that it should be taken up in this particular institution, because it is so essentially an international question and the more people realize that the better it will be.

The problem of the international uses of gold is usually regarded as a question of maintaining the stability of gold prices, but to-night I will not enter into the merits of stabilizing the gold price level, because I feel that it is not necessary to take up the time of such a meeting in arguing the case for a greater stability, or in speaking about the evils of instability. That is something we ought first of all to formulate in our minds.

I do not think that the short run stability of gold prices matters very much. The dispersion of the price index has been getting considerably less each year, and is not a commanding economic problem. The long runs, if you mean 10 or 20 per cent. changes over, say, a century, are also not of crippling importance. But the *medium run* is very important, for example, a 20 per cent. variation in 20 years, because this affects all kinds of contractual relations. This

is very serious in modern life, and the pre-War change was much greater. It had twice been as much as 40 per cent. in twenty-five years. Since the War, changes have been even more striking. In this country they have been 17 to 20 per cent. in the last five years.

Why is this medium run important while the others are of lesser significance? It is because it is the kind of period envisaged by the average human life; by the period of bonds, by the period of leases—ninety-nine years; by reparations and foreign debts; by the royalty arrangements of oil fields. Wages settlements are for rather shorter periods, but are near enough to this medium run to be affected to an important extent.

There is the question of a continuous small percentage change in the price level of gold being either a continual depressant or enhancement of trade activities. If, for example, you read the evidence before the Royal Commission on the Depression of Trade and Industry in the 'eighties, you will see that the change each year, though small enough not to be in everybody's minds as the cause of the malady, was present and was most important.

When we are speaking of avoiding change in the level of gold prices we do not mean that they should be absolutely fixed for all time. When we say it is unfair to lend five pairs of boots to-day and get back ten in twenty years' time, this is only so if the human costs of the latter are then relatively greater than the former. What we are really aiming at is that it should be reasonably consistent with a constant unit of human effort and abstinence. Genuine ease of production compared with gold may well be regarded as *lower* real costs. The relative positions of the two contractual parties in the general trend of prosperity should not be radically changed.

Coming to the main issues, there are four chief avenues of approach to the subject of our discussion, and if you can solve the problem down one of those avenues it may be quite unnecessary to explore the others at all.

First, there is the quantity of gold available; secondly, the better use of the existing gold stocks; thirdly, a better utilization and extension of the super-structure of credit; fourthly, ancillary methods of increasing the stocks of gold.

1. What is the total quantity of gold at present in sight? The total ultimately available does not matter so much as the possible speed of the annual working. What is the limit of that speed at current costs? Can it be speeded up economically? There is also the fact of what is ultimately workable, and the amount which could be worked in a year by new scientific processes, such as those which followed

the cyanide process in the 'nineties. There we must consider the point of view of the people who like to make an equation between the percentage increase of gold and the increase in goods and productive services.

The question of the whole quantity of gold which there is to be mined is very interesting to some people, and also the possibilities of fresh gold discovery. The finding of completely new fields might have some effect upon the price level, such as followed the discovery of the gold fields in California and Australia. Then there is also a great deal of gold not now in monetary use which perhaps could be made available. There is an immense stock of precious metals in India, which has been buried out of sight, but I do not know what its extent is or what the possibilities are of bringing it back. The greatest change in price levels, that which followed the discovery of the Americas, was not due to the flow of gold into Europe from mines, but to the accumulated stocks which were looted from the temples and sent home to Spain and Italy and so into the main trade channels of Europe. The price levels went up first in the near countries and then in the remote, so that to read of it is like watching a coloured liquid flowing into a bowl of clear liquid and gradually colouring the whole of it.

Then there is the possibility of a change in non-monetary uses of gold. If people did not have their teeth stopped with it and if gold were not used for ornaments there would be much more in monetary use.

The dynamic elements in this question touch the annual production, which affects the value. In considering the effect of a certain amount of gold we must consider the conditions at the point of production. We might work out the first point of contact with gold, namely that of controlling gold supplies at the mines. As prices rise and an ounce of gold buys fewer commodities near the mines, new supplies from uneconomic mines shrink. When the price falls and gold buys more, gold mining is encouraged and the unproductive mines tend to be worked more. The correction comes in automatically. That is the operation; I do not know how fast it is, but probably it is rather slow.

If the question of the quantity of gold and the rate of production is an essential influence, it is obviously going to be made much more inevitable and quicker in its action if the people controlling the gold situation have some say in the rapidity of the mining; the mines should, perhaps, all be controlled by the central banks. If they were, the correction could be produced much more quickly. At present it is haphazard and not controlled with a definite object in view. If

the whole object in mining gold were the extent of the gold reserves, we should achieve with certainty what the present methods only do by chance.

The present outlook in the view of most people is a diminishing gold supply and a heavy fall in gold values. I need not point out how very bad that would be for this country, with its large national debt and falling money income. The difference it would make can be expressed in an amount of from about one thousand to fifteen hundred millions sterling in the weight of the national debt. The foreign debt is also affected, and particularly our wage position which is much more set than that of any other country. The question of the amount of gold and the rapidity and the quantity of mining has got to be looked at in any examination of the problem.

2. But if you do not touch that question at all, can you not make a better use of the existing amount of money? If there were no hoarding or sterilizing by particular countries, except in cases where it is necessary to check the rise in prices, could you get rid of this artificial starvation?

There is also the question of psychology. If in several countries the psychological outlook on this question is a hundred years behind that of the others, how can we get any unity on it? Is the pace to be the pace of the slowest member of a community of financial nations? You will not solve the problem by merely moving gold about to requirements which are so different in origin.

If you have a new central bank, one of three things will happen. If the gold placed there by different countries is taken out of the credit economy of the others, this new bank will be a fresh competitor, but if that gold can count as if it were in their own vaults, it will preserve the *status quo* of super-imposed credit. Secondly, if any gold is being held by the different banks surplus to their normal requirements, and is, so to speak, hoarded above what the world thinks a safe figure, then the central bank, out of its own holding, can offset the effect of such hoarding by issuing from the centre its own credit to an amount equivalent to the deficiency created by hoarding. Thirdly, if there is a world fall in price due to the actual total shortage of gold, the central bank might stabilize the total of economic credit by supplementing the volume under the foregoing suggestion, and by a duplicate use of the gold bars within safe limits. That would not be an inflation of world credit, but would be a corrective of a downward trend.

3. The third question is the super-structure of credit or credit sky-scrapers; and adding on another storey is almost entirely a question

of psychology, because as long as you have a rule which people recognize and which is working all right, it will continue to work. The alternative rule will also work if people believe in it. Some people say there should be a 50 per cent. ratio, others say 25 per cent. There is no inevitable ratio which is constant for all time, and there are certain conditions which make more favourably than others for experiment. When business becomes stabilized and settled at each level, it is possible to try a lower level without risk.

The question of international peace is also very important in enabling us to work on a small amount of gold. The root idea is that we must have gold as a backing to a certain extent. With greater clarity of international thought on these matters, a time will follow in which, finance being controlled and thought out by a central bank instead of operating haphazardly, we shall be enabled to establish more economical ratios. If the question of international control spreads we ought to be able to get rid of the present localized ideas. For instance, railway engineers always arrange a very big margin of safety for their work, and therefore if you asked one of them to build an hotel he might put girders on the fourth floor which would take a locomotive!

4. Assuming that you have done the maximum with the future production of gold, with the question of the existing quantity of gold, and with the questions of the super-structure of credit and psychology; assuming that you are then short of the proper amount of gold to enable you to conduct business without a fall in prices, then you will have to consider what is the problem involved in bringing in platinum and silver as auxiliaries to widen the base—the problem of bi-metallism. What are the prospects of that, and also of Irving Fisher's ideas of altering the gold content of the dollar, or whatever your unit of currency is? Further, you will have to consider what are the prospects of a variable currency internally controlled by price levels and linked to gold for international trade?

Discussion.

SIR BASIL BLACKETT: It is the belief of uninformed opinion in arriving at views on this subject that it is a mystery belonging to the elect and only to be talked of in parables, where a direct question is never directly answered. The most important function which the study of this question can serve is to conduce to clear thinking on the point of what is the purpose for which a central bank keeps gold. I am quite sure that the Bank of England would not like to answer the question, 'Why do you keep gold?' I am still more certain that

they would not like to answer the question, 'Why do you think that any particular figure you may fix is a desirable figure?'

I found, when going round the world last year, that I was an absolute radical in my views on the purposes for which gold was kept. It is important that we should get away from the mediaeval notion that gold is held as a backing for notes. If we once got clear thinking on the purposes for which gold is held there might be a very considerable advance.

The purpose which we all have in view is to arrive at a medium of exchange which for a reasonable period of time will not fluctuate in purchasing power to such an extent as to upset ordinary exchange values. There are various methods which have been suggested this evening for studying the subject, but I shall not try to follow them in any particular direction.

I should like, however, to say a few words on the question of bringing into currency uses large hoards of gold which are at present used for non-currency purposes. Sir Josiah Stamp has instanced the gold brought into currency in the sixteenth century as the effect, not of the new discovery of gold, but of the transfer of it from the temples of South America to the exchange houses in Venice, &c. There is also the case of Alexander's campaign in the East, when the amount of gold brought back upset the level of prices in the Levantine world of the day. If anything like that happened in India, we should discover the need for a 110 per cent. gold reserve!

The problem in India is a very interesting one, and every year there is a little movement here and there in the direction of an increase in banking in that country which is the great hope for India. The effect in time will be to bring into currency use gold which is not in such use at present. I believe that the best way to help this movement is to get the Indian to believe that his currency is as good as gold, but this method is not likely to be adopted as long as we are in fear as to a shortage of gold. The adoption of a sensible view as to the uses of gold would react upon India and upon the Indian's belief that the only real value is gold or precious metals. India is a very old country and the Indian regards the presence of the British there as a very ephemeral and passing one, likely in due course to end in the restoration of that condition of chaos and disorder which he looks on as normal, and in which gold and precious metals and stones have a real value which does not belong to currency notes or token coins.

Sir Otto Niemeyer: I am reminded of the drafting of the Gold Standard Act of 1925; it had to be drafted in a form which did not

preclude the possibility of a return some time to gold sovereigns in circulation. This was done entirely to meet the psychology of the people of this country, which shows that the need for education in this matter is just as great here as in other parts of the world.

A great many of the problems sketched by Sir Josiah Stamp are being studied at this moment by the Gold Delegation of the Financial Committee of the League of Nations. It is rather remarkable how closely the heads of inquiry correspond.

I want to question one thing. Sir Josiah Stamp said that he thought he could assume that we were all in favour of stability of prices, but that he was not sure that it might not be very useful if some one would get out a detailed statement of the considerations which made us want stability. It is quite surprising the number of people who have doubts about it and say, 'After all, is it a good thing?' It would be well worth while to set out the pros and cons in reasoned form.

Moreover, what do we mean by stability? Is it absolute or relative? What price do we mean? In many people's minds it means the stability of a particular price. Do we mean the general level of prices or of particular prices? If so, what is the general level of prices? The question of what index can be followed needs a great deal of consideration and is far from simple.

MR. R. G. HAWTREY: In my view one of the most serious evils arising from fluctuations in the value of the currency is the trade cycle. Whatever the causes of the trade cycle may be, one thing is common ground to every one, and that is that the trade cycle includes a fluctuation of the price level combined with a fluctuation of productive activity. The two go together.

If the fall in price were due to increased production and the rise to scarcity, no further explanation would have to be looked for. But in fact the fall coincides with diminished production and the rise with increased production. The total value in money of the output of the world is increased both by the percentage by which prices rise and by the percentage by which the physical volume of production rises. Likewise, the subsequent fall in the price level is superimposed on the shrinkage of production. These wide fluctuations in money value of output are clearly a monetary phenomenon.

A fall in the price level due to monetary causes brings about business depression and unemployment. The depression of the 'eighties, following the general adoption of the gold standard and the heavy fall in prices from 1873 onwards, supplies a well-known example.

The change in the price level, which used to occur over the period of a cycle, say from seven to eleven years, was often of the order of 20 per cent. If the long period trend of prices were downwards, the fall would be greater and the rise less, and vice versa. Such changes are not very different in magnitude from the fall in the price level during the last five years. If the changes in the price level were eliminated the other phenomena of the trade cycle, if not altogether prevented, would at any rate be reduced to relative insignificance.

The importance of pre-War experience is that it is derived from a time when gold was regarded as an automatic regulator of the purchasing power of the currency. It shows that that cannot be safely assumed. The value of gold is, it is true, determined by demand and supply, but the most important demand is for *monetary use.*

The annual supply of gold is about £80,000,000, and the stock in the hands of the central banks of the world is about £2,200,000,000, of which £1,700,000,000 is in the hands of seven countries. About half the annual output is required for industrial purposes and the balance has to be absorbed by the central banks. The command of the central banks over the market in gold is absolute. They can dictate its value in terms of other commodities. By letting loose a very small amount of their stock they can decrease the value, and by absorbing more they can increase it.

Therefore this problem rests absolutely within the power of the central banks to solve. This, of course, includes the authorities which determine the conditions under which the banks work.

There are two difficulties which arise in the way of using the power of the central banks. One is how to get suitable statutory and administrative arrangements which have the necessary elasticity. That problem has been adequately solved, for several countries have done it already. In Italy they have an arrangement by which they are free to hold foreign exchange to any extent in lieu of gold. The United States can afford to lose gold on the large scale on which they have absorbed it. Great Britain has also got a system of elasticity on the model explained by the Conservative Government in introducing the Currency Bill[1] of 1928. In that Bill the power was reserved to the Government to alter the fiduciary issue.

The second difficulty is to find a suitable and practical definition of conditions of stability. Many people think that it could be adequately secured by fixing a wholesale commodity index number, such as that of the Board of Trade. It is not as simple as that, but the problem is not insoluble. Even if the world only tried to stabilize

[1] Great Britain: *Currency and Bank Notes Act*, 1928 (H.M. Stationery Office).

prices by fixing the index numbers, a great deal would be gained as compared with the chaos before the War when there were the great variations of the trade cycle. We have had nothing quite like it since the War, but we have had ample experience of what happens when the currency varies.

Sir Henry Strakosch: I want to congratulate the Royal Institute of International Affairs on starting this group, and also on the designation they have given to the inquiry which it is to undertake. As a member of the Financial Committee of the League of Nations, I can say that we found it very difficult to select a designation for the League's inquiry. We called it an inquiry into 'the causes of fluctuations in the purchasing power of gold and their effect on the economic life of the nations'. We thought that was sufficiently innocuous.

I agree that the first thing to do is to create a well-instructed public opinion on the subject, in the hope that that instructed public opinion will penetrate the parlours of some of the central banks. The stock argument of those opposing an inquiry usually is that they do not believe it is possible for central banks to regulate the level of prices, and that even if this were the case, their bank charters do not say they are to do so, but only ask them to maintain their money stable in terms of gold. In the same breath they said, when the League of Nations' inquiry was first suggested, that such an investigation should not be held because it was poaching on the preserves of the central banks. The first thing which I believe any body of men who are interested in this subject should do is to concentrate their attention on forming an instructed public opinion, and in order to do that it is necessary to establish a collective view of a number of people who have studied the subject on a number of questions that are fundamental to the problem.

For instance, there is the question of establishing an agreed estimate of the stock of gold at present available for monetary purposes, and the amount likely to be added to it annually. What is the present relationship between the stock of monetary gold and the total superstructure of currency and credit, and what is the prospective relationship between the growth of trade and requirements for currency and credit? Then there is the point of legislative enactments in connexion with the gold reserve, &c. All these points have hitherto been dealt with only by individuals among whom there is considerable disagreement. There has been no collective opinion. I hope that the work of this Institute and of the Financial Committee

of the League will be helpful in establishing a collective opinion that will command authority.

The late Professor Lehfeldt suggested that the stabilization of the value of gold might be achieved by controlling and regulating the output of gold.[1] I profoundly disagree with Professor Lehfeldt. The total gold production to-day is about eighty millions sterling per annum, of which more than half comes from the Transvaal. Production there is not very elastic, and a falling price level is not going to produce a very material increase in the output of gold, mainly because production is limited by physical conditions. To develop a mine before it reaches the production stage takes between seven and ten years. Some areas already being worked, however, contain a great deal of low grade rock which might be worked if the cost of production could be reduced sufficiently. But there one is up against conditions which I think definitely bar the gold mines from taking advantage of falls in prices.

South Africa is not only a gold producing country but also an agricultural country. If there were a heavy fall in prices there would be great business depression, and the farming industry would suffer very severely. Its taxable capacity would fall, and as no government likes to curtail expenditure, especially in a new country where there is need for development, the fall would cause the Government to throw the burden of taxation mainly on the shoulders of the industry that was best able to bear it, i.e. the gold industry. The gold industry has been going through this experience ever since it started, although the increase has generally been invisible. For instance, the cost of transport has been increased against the gold mines and lowered towards other industries.

A fall in commodity prices is not going to stimulate gold production as many people believe. In other parts of the world gold is mainly produced from quartz reefs on a comparatively small scale, though the reefs are usually of higher grade than the Transvaal ores. To increase production by working the low grade ores requires extended milling plants, which are costly and are not likely to be put up in view of the small margin of profit on these ores, even if the cost of milling them were materially reduced. The problem has not much hope of a solution from that direction.

The most hopeful avenue of inquiry is to see whether the quantity of available monetary gold can be made to support an increasing structure of credit. Investigations show that while the world's gold production is likely to continue at about the present rate for the

[1] Lehfeldt, *Controlling the Output of Gold.* 1926. (London General Press.)

next ten years, a steep drop must be anticipated from then onwards. But the fact that the gold output is likely to be maintained at the present level for ten years is small consolation. The world is making steady economic progress, and this progress calls for a corresponding augmentation of monetary gold stocks if prices are to be maintained stable. Only drastic economies in the use of gold as a basis of credit can, in the circumstances, save us from a steady fall of prices. Action in this direction is therefore a matter of urgency.

MR. C. H. KISCH: One of the peculiar charms of this meeting is that it allows individuals like myself to meet the authorities of the central banks of the country, who usually live in their City fastnesses under a military guard! One can at such meetings extract from them some elementary definitions.

Sir Otto said, 'Why aim at stabilization?' I should add, 'What is the stabilization at which we aim?' I have recently read a long report of an inquiry in the United States into the question of imposing upon the Federal Reserve Bank the obligation of maintaining the price level steady.[1] The authorities of the Federal Reserve Bank of New York, who ought to know most about these matters, were strongly opposed to having that responsibility placed upon them. Great doubts were expressed as to the capacity of the system to do it and as to the danger of inducing false hopes among the people as to its possibility. In the course of the inquiry the question arose of fluctuations due to monetary and non-monetary causes, and that led to a most interesting discussion. It is perhaps generally admitted that you have to do all you can to prevent price fluctuations arising from monetary causes, such as a world shortage of gold, but when you come to the question whether you should take monetary action to interfere with economic developments affecting prices, and should apply conscious policy to neutralize what some people might think were normal developments, more debatable ground is entered. In such a case you might do good to some and harm to others. One can argue that there is a general good which must come before everything else and stand above particular interests, but it requires very careful analysis.

On the statistical side of this inquiry there is very much work to be done, because the estimates made about the amount of new gold required in years ahead are very largely based on the fifty years preceding the War, when conditions were quite different. We were

[1] United States: *Stabilisation: Hearings before the House of Representatives Committee on Banking and Currency.* 1928.

then living in a period of intense nationalism and war chests were being accumulated everywhere. This problem is of an international kind and we must have an international atmosphere for its solution. If we here can contribute to the growth of a right international atmosphere, that will be a great achievement.

As regards statistical material, some help can be obtained from post-War as well as pre-War experience. For instance, how far has the central banks' policy been dictated in recent years by the gold question?

The United States has a great excess of gold, though some people say it will be used up in five years' time, but there is the fact that after 1925 there was unexampled prosperity in the United States, and that it was associated with some decline in the price level. Was that a price tendency which should have been checked by the monetary authorities?

As regards Great Britain, it is more difficult to answer the question how far the gold reserve is dictating policy. One admires the policy of the Bank of England in letting the gold reserve go down as far as it did before raising the bank rate to six-and-a-half per cent. to defend its gold reserve. There the gold question did come in, but fortunately it was not long before relief was afforded.

In the case of France, the gold question is dealt with on entirely different lines and the need for 'moral education' is greater. The Indian gold question is of peculiar interest and will require study.

Mr. E. M. H. Lloyd: I should like to suggest one other point for examination, the particular effect of monetary instability on agriculture, which is very susceptible to it.

Dr. W. H. Coates: The problem has been put to us largely as a question of education, and it is suggested that we might take some part in that process, but unfortunately we are starting on the wrong side of the Atlantic. It is a problem in which it is extremely difficult to enlist the interest of the business man. It is the general basis on which he conducts all his transactions, but is one to which he pays very little attention. He thinks it is very difficult to understand. It seems to me that a process of education should be started, not only in this country but also on the Continent and all over the United States from the Atlantic coast right into the Middle West. It is a policy which it will take another half-century to carry out, and what is its object? To convince the central banks.

I have been a little surprised that no mention has been made of

the one great step which is being taken in the organization of the Bank for International Settlements. Whatever may be said for or against it, that Bank, if once constituted, will bring together in one room the representatives of the most important central banks of the world. If, as we may hope, other countries take up some of the capital subscription of the bank, they also will send representatives. It will be the job of the Bank of England representatives to carry on the work of education and to convince the central banks there assembled of what has to be done if the problem is to be adequately dealt with.

There are probably twenty thousand millions' worth of transactions carried on in Great Britain each year on a base of one hundred and fifty millions of gold. That fact gives some measure of the credit structure the whole world uses. The central banks determine how much credit there is to be. They look in a cupboard to see how much yellow metal they have got! They might as well look to see how much coal they have. Gold should be put in its proper place.

Sir Josiah Stamp: When I said that it was unnecessary to argue the case for the stability of gold prices, I referred only to the shortness of the time available to-night.

There is a very considerable amount of information to be made known, and the business world in particular requires convincing. I agree that the business man is particularly affected by these matters. As to convincing the central banks, that must also be done, but some of them will be much more easily convinced if there is a decided public opinion on the matter, really demanding a solution. It is no good merely going to people and saying that it is a big problem; they will only reply, 'What is your remedy?' We have got to find a reasonable remedy.

One of the great features of price fluctuation is its dynamic effect upon trade cycles, and whether we put it high or low or take Pigou's figure of 50 per cent. as due to monetary causes, it is the only way to get the issue home to people easily. The business man will say that trade cycles are inevitable in business. It is like the problem of a man who is continually having to go upstairs and downstairs on most uneven steps carrying a tray. Mr. Hawtrey has suggested making the steps level, but the man would still be going up and down.

This meeting should be followed by consideration of the more specific details of the problem. We should not have to concern ourselves at all with these questions of the quantity of gold, &c., if we got to a Utopia where gold standards were unnecessary.

Selection of Comments on the Proceedings.

MR. W. MILNE-BAILEY: It is evident from the discussion which followed Sir Josiah's paper that the question of the need for stabilizing the gold price level requires to be thrashed out. It may be true, as Sir Josiah said, that short term fluctuations have become much less pronounced, but the recent fall in wholesale prices is a sufficient reminder of what is still possible in this direction. Short term fluctuations where they do occur are just as disastrous as any others, if only because of their effect on the industrial position. Already we are getting once more into a situation of industrial conflict owing to the pressure to bring down wage levels, although retail prices have fallen very little.

I think it is important to emphasize, as Sir Josiah and others have done, that the ratio fixed by legislation at present in force is a purely conventional one, and that there is a great need of education to persuade people that a lower ratio produces no element of weakness.

I think some further attention ought to be given to the point made by Sir Basil Blackett regarding the education of Indian opinion. It certainly seems to me that the drain of gold for non-monetary purposes into India will become a more serious factor as time goes on, and some thought ought to be given to the question whether this annual drain is inevitable.

A most important point, which I take it is to be considered in detail at a later stage, is that raised by Sir Henry Strakosch in his last paragraph, where he says that the most hopeful avenue of inquiry is to see whether the quantity of available monetary gold can be made to support an increasing structure of credit. It appears to me that this is the fundamental problem that we have to solve.

Mr. Kisch, referring to the United States Hearings on Stabilization in 1928, mentioned the scepticism of the Federal Reserve authorities as to the possibility of stabilization. I notice that Mr. Kisch, in his book on central banks,[1] states categorically that the Federal Reserve Board did in fact stabilize prices fairly successfully, and of course the same thing has been said by many other people. I think it would be worth while trying to get some definite agreement on this point. One quite understands that the American authorities do not wish to advertise the fact, if it is a fact, to the American business community, but we ought to have some clear idea in our minds as to whether

[1] Kisch and Elkin, *Central Banks: a study of the constitutions of Banks of Issue with an analysis of representative Charters.* 1928. [Rev. ed. 1930.] (London: Macmillan.)

they did in fact pursue a deliberate policy aiming at the stabilization of the price level, and if so what were the causes that led to the breakdown of this policy.

MR. J. H. PENSON: Sir Josiah Stamp's four lines of approach seem to cover the ground adequately. The suggestion—which appears to be made—that hoarding in backward countries could be counteracted by action on the part of an international bank, is attractive, but requires further elucidation. What surplus gold, for instance, could the international bank usefully employ? If 'normal requirements' are already provided for in the other countries of the world, there is no immediate need for fresh credit from the international bank; if, on the other hand, there is a shortage, there is no real 'surplus' for the international bank to use as the basis of its credit.

True, the international bank might issue a larger volume of credit against its gold than an individual central bank; but it then becomes only a special case of 'superstructure', to be dealt with under the third suggested line of approach. Is it suggested that at present notes could be issued in Europe or America against gold hoarded in India, or even against that hoarded by the central banks of certain European countries? The difficulty would be that the gold could not be got at if it were wanted for any reason.

Gold is required under present conditions not merely for psychological purposes, but also for settling the balance of international indebtedness. The question of what proportion is required for this purpose in different countries to-day will need to be pursued as part of our investigations under the third line of approach. It depends, among other things, on the extent to which the particular nation engages in international trade, on the extent to which it is itself an international financial centre, and on how rapidly its currency system can be adjusted under the direction of its central bank.

If all the important financial countries of the world pooled their gold resources, they would require less for the purpose of meeting international demands, but gold payments might still have to be made as between these countries and those not participating in the pool. One factor governing the proportion which such an international bank would have to keep would be the speed with which credit adjustments could be made in the participating countries as soon as a serious loss of gold on the part of the international bank was threatened.

Mr. G. D. Rokeling: I hope that the investigation will illumine amongst other things the deficiencies in the statistical equipment of this country and (since private enterprise cannot be relied on to fill the gap) the need for the establishment at the taxpayers' expense of a National Bureau of Economic Research. I should like to see a recommendation from this group to this effect.

Mr. J. R. Bellerby: The most pregnant remark of the discussion seems to me to be the final one contained in Sir Josiah Stamp's opening speech: 'What are the prospects of a variable currency internally controlled by price levels and linked to gold for international trade?'

In the attempt to control the movement of the general level of prices, there are two main factors to consider: (i) an adequate gold basis for credit; and (ii) the control of the credit itself.

The first meeting of the group confined itself to the first of these, thereby considering half the problem. Probably this is for the immediate present the less important half. During the last ten years of deflation *the gold basis has been of no significance whatever*, the deflation having been due solely to high discount rates. Gold has been in ample supply throughout. In the future, *the gold basis will only achieve significance if there is a tendency for the world supply of gold to become inadequate.*

The factor which is of importance now is the direct control of credit through discount rates. In the exercise of this control no country is independent except the United States, which secures independence through its dominion over all others. Hence the problems involved are again international.

Following Sir Josiah Stamp's opening suggestion, would not a suitable problem for examination be: Is it possible to evolve a national monetary system which would enable Great Britain (*a*) to collaborate with other countries in so far as the policies of other countries tended towards stability of the price level, and (*b*) to emancipate itself from control by other countries when their policies ran contrary to the maintenance of stability of the price level?

Mr. A. W. Kiddy: While fully recognizing the importance of co-operation between central banks making for certain economies in the use of gold, can the subject be regarded altogether from an international standpoint? Of course, such a standpoint makes the study more comprehensive and complete, but is it practicable and is it even advisable from the standpoint of our own country?

Although Sir Josiah Stamp refrained from speaking at length upon, or emphasizing, the question of price levels, there was running through his speech and through the remarks of most of the other speakers a general acceptance of the almost universally recognized idea to-day, that stability of price levels all over the world should be regarded as a kind of first essential. But while recognizing the inconvenience and actual disadvantages which have arisen from excessive fluctuations in prices, I cannot help thinking that if one of the primary merits of the international functions of gold is to maintain anything like a dead level of prices over the various countries, we shall be contending with natural forces and impulses which should not be suppressed.

I make the suggestion as to whether in the case of this country in particular, with its leeway to make up in the matter of exports and with high tariffs to face in the United States and elsewhere, it may not be necessary for the exertion of such an amount of individual effort, efficiency and general organization as to make our price level—or at all events our cost of production—materially lower than that of other countries, so that we shall retrieve our position and in so doing even make a consequent and ultimate contribution to the general equilibrium of international trade and therefore of the exchanges. I may be wrong in propounding this theory, but if I am right then I think we have to accept, not only as inevitable, but even as desirable, free play in the matter of price fluctuations which, ultimately, should make for natural equilibrium as compared with artificial equilibrium as the result of international central banking control.

The after-consequences of the War have, no doubt, made necessary a great many temporary schemes for tiding over difficult situations and for strengthening the general international credit structure, but I think there is some danger of these abnormal conditions being allowed to affect too greatly our policy in determining future permanent organizations.

I am not, however, unmindful of what I imagine to be the central thought of Sir Josiah Stamp and others with regard to the general question of the international functions of gold, namely, that we may be called upon to combat the general deflationary effect of a supply of gold insufficient to match the growth in the general superstructure of credit, and that in this deflationary process our own country would suffer.

Second Meeting of the Chatham House Study Group on the International Functions of Gold, 22nd January, 1930.

HOW DO WE WANT GOLD TO BEHAVE?

BY DENNIS H. ROBERTSON

MR. J. M. KEYNES, C.B., in the Chair

THE CHAIRMAN, MR. J. M. KEYNES: It is necessary for the purpose of this investigation to discuss the subject of 'How do we want Gold to behave?' It is, nevertheless, a subject the discussion of which causes me some alarm, because it is almost inevitable that the discussion will reveal the existence of many camps.

I should like to impress upon those present my conviction that the disagreements in matters of detail which will certainly appear might not be of great importance when viewed in relation to the wider aspects of the subject. For instance, I hope you will be in general agreement with the following propositions:

(*a*) We want some policy as regards price levels, aimed at some sort of stability.

(*b*) We cannot discuss the relative merits of various policies until we are clear as to what kind of stability we are aiming at.

(*c*) Nevertheless, it may not make a very great deal of practical difference upon what particular brand of stability our first preference rests.

MR. D. H. ROBERTSON: The purpose of this group is to find methods to make gold behave itself as a basis of international money. At the inaugural meeting of the group Sir Josiah Stamp suggested that there were four possible channels of investigation, any or all of which might lead to the heart of this subject. But he also made the preliminary observation that he was taking it for granted that the desirability of a stable price level was agreed. This premiss was questioned by Sir Otto Niemeyer, who suggested that it might be advantageous if, as a preliminary measure, the group examined the case for stability and endeavoured to discover exactly what we meant by that expression.

The remarks I shall make this evening are a response to the suggestion of Sir Otto. I do not claim that they would have been very original, even had they been composed before Mr. Hawtrey's recent paper.[1] Nevertheless, in an investigation of this nature it is worth

[1] 'Money and Index Numbers.' Article in *Journal of the Royal Statistical Society*, 1930, Vol. xciii, Part I, pp. 64–103.

setting down certain familiar points before we embark on a journey into uncharted regions.

I will now make a preliminary proposition which I hope will secure general agreement, and that is that we do not want gold to behave in such a way as to restore the value of money (whatever exactly we mean by that) to the pre-War level. It is important that we should agree on that point, and on the danger of its happening, for there are still in existence some Old Gold Men, if I may so term them without disrespect, who argue that things worked fairly well in the nineteenth century, when new sources of gold production came to light at suitable moments, and that possibly this economic foresight on the part of Providence might be expected to continue in future.

These arguments in favour of a policy of *laissez faire* might or might not be sound if we were starting from equilibrium, but it is doubtful if we are starting from that state of affairs. An amount of monetary gold 20 to 40 per cent. greater than in 1913 is supporting a price and income level say 50 per cent. higher, in spite of a considerable growth of population and of production. This could not have happened except by the use of certain expedients forced upon us by the War, expedients such as the abandonment of gold as a medium of circulation, the use of gold exchange practices and similar devices.

These reforms were hailed with delight on the assumption that they had come to stay, but can we be sure of this? Count Volpi, the Italian Minister of Finance, has made no secret of his intention that for Italy the exchange standard should be temporary. And does France, for instance, perhaps intend to restore a gold circulation? In short, if these changes which were made under the pressure of war conditions are liable to be reversed we *shall* be back to pre-War prices.

But most people will go further and hold that in any case it would be desirable now to plan for the future. In such a case if we were free to choose what should be our view about the long period value of money? I trust that my fellow members of this group, whose interests lie rather in the nature of practical business problems than the theory of economics, will not think that I am being too 'professorial' if I suggest that the best way to approach this problem is to make certain assumptions and to split up the problem and attack it piecemeal.

Let us assume in the first instance—

1. That we are living in a closed system in which we do not have to pay any attention to international trade, and
2. That our productive efficiency remains constant, that is to say, the total of our production will only grow in proportion to the increase of our population.

In these conditions what should we desire the price level to do? The common sense answer is that we should desire to keep stable the level of prices of those things on which income is spent (and I here add that I agree with Mr. Hawtrey when he suggests that the word 'things' which I have just used should include new capital goods). Such stabilization would imply also stability of wholesale prices, since there would be no cause for any relative alteration in the levels. But note also that it does not imply stability of the prices of individual commodities and groups of commodities, nor even of the main groups of consumption and investment goods; for the price of the latter would naturally rise if the rate of interest fell, until the distribution of productive power readjusted itself.

One may introduce four arguments for this conclusion that we should want to keep stable the level of prices. Three of these arguments are familiar and one is less familiar. In the first place, stability of the price level prevents injustice as between debtor and creditor; the former pays and the latter gets the same amount in real goods as he intended, which would not be so if the price level varied either way. Secondly, it prevents injustice between those with sticky and those with fluid incomes. Thirdly, it insures producers against risks of loss other than those which are normally inherent in their businesses. Fourthly, on the assumptions made, the stable price level would enable the banking system to do its job by converting into real capital goods just so much and no more saving as is entrusted to it by the public. If the price level is allowed to rise, forced saving is inflicted on the public for the benefit of the industrialists. If it is allowed to fall, savings which the public intended to make will go to waste in the form of lower prices. A fall in prices will be a sign that the banks are not expanding fast enough, so that those who wished to exercise thrift by leaving their money unused are not in fact being called on to do so, but thanks to the fall in prices are consuming just as much as ever.

Is there no plausible alternative? Yes, to let prices rise gradually, not enough to cause confusion or scandal, but just enough always to be stealing a few savings for the business man through the realized rise in prices, and to be giving him an incentive to use them through the prospective further rise. This argument is thought to be reinforced by some people if among the creditors robbed are holders of government debt as well as of industrial debts. It might be the least bad thing to do if there was a reason to think either (*a*) that the normal incentive to enterprise under capitalism had become exhausted, or (*b*) that while the incentive to business men was adequate, the resources being put at their disposal were inadequate. With the

present scale of saving there is no reason to suspect that business men are not being given adequate resources, but it might become true if a sudden burst of technical invention made a great burst of new investment tremendously worth while from a social point of view.

It is difficult on my second assumption, which I will remind you is that productive efficiency remains constant and that the total production only grows in proportion to the population, to make out a case for falling prices, which must be both inequitable and discouraging. But the whole case is altered if this second assumption is removed. In this case the *prima facie* view is that the price level should fall *pari passu* with the increase of productivity per head. There is a growing recognition of this truth amongst advocates of stabilization, although it was quite ignored a few years ago. I venture to suggest that both Professor Pigou and Mr. Hawtrey have recently become converts to this point of view.

In brief, the case for slowly falling prices is as follows:

First, equity: there is not much doubt that the salary earner, even the extra-industrial salary earner, should benefit from an increase in production, and he will most easily do so if prices are allowed to fall. Opinions may differ as to whether the 'rentier' should benefit from such a fall of prices. On the whole I consider he should. Even the government creditor should, for he has played his part in creating the environment which has made technical progress possible. People with fixed incomes are probably being harried quite enough by direct taxation.

Secondly, a falling price level enables one to avoid friction in benefiting those who should admittedly be benefited, i.e. the wage-earners.

Thirdly, there is a preservation of equilibrium between voluntary saving and investment. It is true that if prices fall, the real value of balances rises, but that is a mere automatic reflection of the increase in productivity. It does not mean that attempts to save have increased. If you then inflate credit to keep prices stable you are inflicting enforced saving, not transforming voluntary saving into industrial capital. There is all the difference in the world from this point of view between an increase of credit in proportion to population, and an increase in proportion to production.

Fourthly, there is the effect of a falling price level on productivity. It is clear that the producer is not damaged or discouraged—his costs per unit of product are reduced *pari passu* with his receipts per unit of product. It seems, however, at first sight that the trader is penalized. If he buys wholesale goods for £80, spends £20 on handling, expecting to sell them at £100, and then has to sell them at £80, he

has suffered a capital loss even if he could replace his goods at £64. Nor, I think, is Mr. Hawtrey's answer, that the loss is past and over and will not affect his future actions, a very valid answer if the policy is a set, and therefore a well-known, one, since further increases in productivity with corresponding falls in prices would be expected.

I suggest, however, that there are two other considerations which require thought. Firstly, we must assume a normal and irreducible period for holding goods in stock, so that the flow of goods to consumers cannot be increased, nor, therefore, retail prices fall, until it is over; i.e. if a given improvement in productive efficiency occurs, producers' prices to dealers will fall in (say) January, but dealers' prices to the public cannot fall until July. Thus the dealer will *not* be buying at one price level and selling at another, unless he is holding abnormally large (and therefore abnormally old) stocks. This policy will encourage cutting stocks to the technical minimum, but will not eat into the capital of a dealer who holds such minimum stocks.

Secondly, it appears that we must not expect the technique of dealing efficiency to increase at the same rate as the technique of productive efficiency, which means that more capital and labour will have to be absorbed into the business of dealing, so that the total output of the country will not increase as fast as the output of a given complex of capital, enterprise, and labour engaged in production. Retail prices must fall in proportion to the increase in total output, while wholesale prices will fall in proportion to the output of a given productive complex; i.e. the spread between them must increase to afford dealers a normal income. It will not be equitable, as appears at first sight, that producers' incomes in terms of goods shall increase in full proportion to the increase in their technical efficiency.

I will now turn to the consideration of some of the practical difficulties of carrying out the policy of stabilizing the price of productive power. Firstly, you cannot in the long run equate all other productive services with labour. I feel that Mr. Hawtrey is too optimistic on this subject. Secondly, actual wages are very sticky, so you cannot just wait until these move before doing anything, as you can with a price index—you might wait for ever. Thirdly, you cannot, to adapt a suggestion made by Professor Bradford of Lehigh University[1], just vary the volume of credit in accordance with the anticipated volume of production corrected for the population, since you cannot afford to neglect changes in velocity of circulation. The trouble about a period of increasing productivity is that the desire to spend, not

[1] Bradford: *The Stable Money Question.* (In *Quarterly Journal of Economics*, Aug, 1929).

only on particular things, but on things in general, is constantly becoming temporarily saturated, so that people let balances lie idle, and you may have to create credit out of all proportion to the increase in productivity in order to make prices fall only in proportion to the increase in productivity. Fourthly, *faute de mieux*, you can try to stabilize the retail price level which, on the assumption that dealing efficiency does not increase, will show a closer approach to the price of labour. (It will not do so, as often stated, merely because retail prices 'contain a larger element of personal services'; if those services have become more efficient the cost per unit of handling will have decreased *pari passu* with the wholesale price.) Fifthly, you can take Mr. Hawtrey's emasculated wholesale number—which, however, seems likely to be shorn of all the most important and interesting commodities in a period of general progress! Sixthly, you can take either the wholesale or the retail number, and not stabilize it but let it fall by some percentage arrived at by correcting an index of production by an index of population. This seems to be the best.

I must emphasize again that a period of increasing productivity will, whatever you do, be full of difficulties owing to the general temporary gluttableness of known wants, and the still more obvious particular gluttableness of individual wants. (*The Economist* of 30th November, 1929, told me in three successive paragraphs that there was too much tin in the world, too much tea, and too much oil; and of course I knew already that there was too much coal, too much rubber, and too many ships!)

In conclusion, I would draw your attention to the close connexion between the gold problem and the question of whether to stabilize prices or productive power. If we only get £25 millions of new monetary gold a year, that is more than 1 per cent.—enough to keep pace with population—whereas, if Cassel is right in suggesting that production increases at the rate of 3 per cent. a year, we should want £70 millions to keep pace with production.

I will now return to my original assumptions and remind you that they were two in number. Firstly, that we lived in a closed system, and secondly, that productivity remained constant per unit of population. I have removed the second of these assumptions, and I will now remove the first, and it remains to be seen what modification of our aim is necessary when we approach the fact that we are living in an international world. It is regrettable that this factor adds to the difficulties of an already complicated subject, for it is difficult enough to find even a wholesale number which will fit all countries. The American and British figures, using 1913 as a base, were together in

1925, but in November, 1929, the American figure was 146 and the British was 134. Professor Bowley, in a gallant attempt to deal with this position,[1] has endeavoured to work out a figure, based on identical articles, but unfortunately by using his basis of calculation the American figure becomes something like 147, whilst that of England is 129; and if it is difficult to find a wholesale figure applicable to all countries, it is still more difficult to find a price level of income goods appropriate to all countries owing to the differences in the cost of services, alterations in terms of trade, &c., and in this respect the difficulty becomes even worse if we aim at stabilizing the price of productive power. For example, if we let prices fall in proportion to the increase of productivity in America, we shall be producing a depressing effect in England. I see no way out of this dilemma. It is part of the price we have to pay for internationalism. I can only end up on a note of strained optimism by suggesting that it would be better to stabilize something than to stabilize nothing, it would be better to stabilize an international wholesale level than none at all, and I add my personal view that it would be better still to let it fall by perhaps as much as 3 per cent. per annum.

Discussion.

Professor T. E. Gregory: I do not think we have had an answer to the question which I understood we were here to discuss. I thought it was 'How do we want Gold to behave ?' What we have really been told is 'How prices are to behave'. On that particular point I am in entire agreement with the speaker, and I am not one of those who have changed their views in regard to the proper behaviour of prices during the last twelve months. I merely want to confine myself to one particular point in Mr. Robertson's very interesting remarks.

It is with regard to the position of the merchant class, on the assumption that you are likely to have a falling price level. I felt myself quite unable to follow his own very subtle analysis. I suggest that the problem—assuming, for instance, that prices fall by 3 per cent. per annum—is solved through the fact that if other entrepreneurs do not suffer whilst the merchant class does, the adjustment between merchants' profits and other people's profits under those conditions will come about quite simply by the fact that the trading class will be relatively diminished, a number of them will fall out of the profession, and the rate of remuneration per head will rise. Personally, I do

[1] Bowley and Smith: *Comparative Price Index Numbers for Eleven Principal Countries.* (London and Cambridge Economic Service, Special Memorandum No. 24, July 1927.)

not believe that this is such a serious point as perhaps Mr. Hawtrey and Mr. Robertson have made of it.

May I try, without entering into details with regard to gold production, to hint at what might be the answer to the question? What we want is this: we want a gold supply which is not so large that all the assets of the central banks will be 100 per cent. gold: we do not want a gold supply so small that the central banks will be driven into a panic on account of declining gold reserves. We want the supply of gold to behave in such a way that we can rationally treat the problem of currency—whether the appropriate increase of supply be 3, 2, or 1 per cent. is another point. But it seems to me that the problem of managing the currency and price level in a rational way depends on the supply of gold in the next half-century. They are very elastic limits—if the supply of gold is not going to be so small that the central banks behave as in 1929, or if the supply of gold is not so large that central banks will be forced to keep a reserve of 100 per cent. If the supply of gold lies within those limits, I think we can retain a gold standard and yet allow such price policy as we desire to see developed.

Dr. Sprague: As I shall certainly not be here at the next few meetings, I presume the Chairman will allow me some freedom in what I may say.

There are really two questions: 'How do we want gold to behave?' and 'Can we make it behave in the way we wish it to do?'

I think that we can answer both these questions, and that the answer to the second is in the affirmative, if we do not ask too much of gold. If we are prepared to accept considerable fluctuations in prices, both in an upward and downward direction, then I am disposed to think that it is possible to secure, under the gold standards, fairly satisfactory results. It is for this reason that I am not particularly interested in the refinements of index numbers. I am disposed to think that a change of, say, no more than five points in any index number has no particular significance; that such a change may be due to any one of a score of different, or a combination of one or more different, causes. It is only the extreme persistent changes that are, presumably, to be attributed in large measure to gold. I concur with Mr. Robertson's view, at least to the extent of saying that a downward movement of prices—if it is accompanied or preceded by an increase in the output of goods—is probably more endurable and less disturbing than a downward movement in the absence of such improvements in production. It ought, I think, to be possible through analysis to reach a fairly definite conclusion as to whether scarcity of

gold is a principal cause of a downward movement of prices; and whether a superabundance of gold is occasioning a considerable, and presumably undesirable, upward movement of prices. If the downward movement of prices is in large part due to a scarcity of gold, it will in general be accompanied by high lending rates on the part of the banks—a necessity on the part of the banks either of contracting credit, or allowing it to expand only very slightly. I do not think we can determine the responsibility of gold in the case of a short-time change in prices. For example: the recent decline in prices in the United States would seem to me to be independent of the supply of gold, being due to certain repercussions following the decline in the Stock Market in October, 1929. Almost any considerable economic readjustments will be preceded and accompanied by a downward movement of prices, and that will be true, I believe, regardless of whether the supply of gold is more or a little less abundant.

The problem of gold, as I look at it, has to do primarily with the determination of suitable arrangements to render the world, in considerable measure, immune from the consequences of either a decided increase, or some decline, in the production of gold in the next twenty years—and it is hardly worth while to bother oneself with a more distant date than that.

It would be perfectly possible to meet the situation that may develop in the course of the next twenty years, if the production of gold gradually declines to not more than £50 millions sterling per year. That can be readily accomplished, if legislation is changed throughout the world which will permit the banks to expand credit on the basis of a lower reserve ratio than is at present required in nearly all countries.

There is no particular reason for 40 per cent. or 35 per cent. reserve against issues of bank notes or deposit balances at central banks. What each country needs is an amount of gold available to meet certain conditions that arise in the course of international trade. From time to time it will become necessary—now in one and now in another country—that certain readjustments be made. If the course of exchange runs against the country, and it takes the necessary measures to increase the cost of credit and perhaps reduce the quantity, it will not require very much gold to bring about the adjustment. For, after all, what gold movements do is not so much to settle the payments, as to set in motion certain forces calculated to restore the balance in financial relationships between the countries losing the gold and other countries.

Take the United States at the present time. Some people have

calculated the aggregate amount of gold in the United States against the deposit liabilities of our banks, and have pointed out with some fear and trembling that that ratio is now not more than 5½ per cent., whereas it formerly was 7½ per cent. That is a matter of no consequence. The important thing in the American banking system, or any other, is, what is the nature of the other 93 or 95 per cent. of the assets. The strength of a banking system is not to be measured by a little more or a little less gold.

Now, unfortunately, the reserve ratio fetish has been extended almost throughout the world since the War. We have always had that requirement in the United States, though we have reduced it somewhat in recent years; but in other countries it has been, for the first time, established in law since 1924; and that means that the entire amount of reserve which is required by law is a dead asset, unavailable for use at all except to the minor extent that credit is contracted. We shall never be able to deal with gold in a satisfactory fashion until we get away from legislative reserve requirements imposed upon central banks, and until the public comes to realize that gold is something to be used as a means of influencing the economic and financial relationships of each country, so as to maintain its equilibrium with the rest of the world.

Dr. W. H. Coates: I am not sure that Professor Gregory made a fair statement when he said that Mr. Robertson did not deal with his question. It seems to me that we only want gold to behave in relation to prices; we should not mind what gold did if we had not got a gold standard.

Now I am inclined to take issue with Mr. Robertson when he suggests that falling prices in consequence of increasing productivity are not to be deprecated.

He dealt with the various persons who share in the productivity. I am concerned at the moment with his treatment of the manufacturer. He said that the manufacturer need not be worried, because as his prices fell so would his costs, and therefore he would be all right. When one went down, so would the other, and the difference would tend, I gather, to be constant. But he had already told us in dealing with the first item in his income classes, viz., salaries, that he thought salaried persons were entitled to the benefits that would flow from this fall in prices, because they would get a slightly higher real remuneration. Well, that meant that one particular cost of the manufacturer —because the manufacturer does pay salaries—that particular cost would remain constant.

Mr. Robertson: Not the cost per unit of product; if output is increasing, then the salary cost per unit would be falling.

Dr. Coates: I do not think they would tend to move together. This point would be of greater importance when dealing with wages.

Mr. Robertson: I should think that is what is meant by productivity increasing.

Dr. Coates: I do not think that is necessarily so. The main point I wish to make is that Mr. Robertson did not take into account the psychological effect of the falling price on the manufacturer. As Professor Pigou has taught us, psychology is of great importance. It affects the general attitude of the manufacturer and the entrepreneur towards the development of his business.

Every time that a price level moves downward because of increasing productivity, a tendency makes itself felt to set up some organization which shall defeat that movement. When we had the very large cotton crop two or three years ago, we immediately had the American banking system flying to the assistance of those whose remunerations were threatened by the downward movement in price in order to help the growers to arrange what is always described as orderly marketing. We have recently seen a similar kind of phenomenon in regard to wheat in Canada. To-day, I understand that there are large quantities of wheat held there by the assistance of the banks in order that the Canadian grower shall not assist in a movement towards lower prices. We have to take account of those forces, and of the fact that they are tending to increase and not to diminish. They have had considerable influence upon Canada's position at the present moment in relation to the gold standard itself. Both the entrepreneur and the manufacturer—to return to the psychological point for a moment—are influenced by falling prices. Each is influenced in this way. The tempo of his activities tends to diminish. When you see prices falling, and you are considering a capital extension of any magnitude, you are inclined to say to yourself: 'Well, if I undertake this at the present moment it will cost me so much; if I postpone it for three, six, or twelve months, I may be able to carry it out at a considerably lower cost.' That tendency will run throughout the whole of your entrepreneur's activities and, in my view, it will tend so to slow down the tempo as to produce, not necessarily a state of depression, but a state of activity which is smaller than would be the case if the price level were kept pretty stable. Certainly you will have a degree of activity

which is much less than that which would exist if the price level were slowly rising. Instead of being tempted, as he is with a falling price level, to wait a little, when the entrepreneur sees the price level rising slowly, he says: 'I had better hurry up in case it costs me more.'

I have only one further observation to make, and that is in respect of Dr. Sprague's observation that a movement of five points in the price level was not, in his opinion, of great account. Of course, I do not know the base to which he related that five.

DR. SPRAGUE: There may not be any particular cause for the 5 per cent. change; there may be many causes other than monetary.

DR. COATES: You have to remember again that profits—the mainspring of the entrepreneur, the basis of his psychological attitude—are a residual item. Profit is the remuneration for risk bearing. While a movement of 5 per cent., or five points, whatever the base may be, may be deemed insignificant in relation to the total price, a movement, when you relate it to the residual item of profits, may be very significant indeed.

MR. R. F. HARROD: The point I have to make—if I may carry on where Mr. Robertson left off—is about the international question, about the difficulty which arises from the fact that different countries are progressing in productive efficiency at different rates. If you decide to have stable wages you get different results for different countries. Stable wages would involve wholesale prices falling more quickly in more progressive countries. But wholesale prices must behave in the same way everywhere. Consequently every country cannot have stable wages. The average of world wages could, however, be kept stable.

Now it seems to me that the proper criterion of policy is the effect which the monetary system has on industry. If industry is stimulated to go forward at a pace which cannot be maintained, you are bound to have periodic industrial crises and depressions. If each country could govern its monetary policy independently, it would try—or should try—to adopt a policy which did not result in its industry going forward at a pace that could not be maintained. Now suppose that the policy which keeps industry at its proper pace in a country such as ours, where productivity is increasing slowly, is one of stable wholesale prices. That same policy might, in a more progressive country like America, where costs are falling more rapidly, produce an inflationary effect in industry. The same policy is not likely to suit all of a number

of countries in which real productivity is advancing at different rates.

I should like to add that you have this very serious problem. That country can have its way which is most deflationary or least inflationary in its policy. A country can always be deflationary if the rest of the world does not want to be. It can allow its reserves to accumulate—to 60 or 80 per cent., or more. But a country cannot be inflationary on its own and remain on the gold standard. If each country tries to do what is best for its own industry, that country, which it suits to have wholesale prices falling most (that is, the country which is most prosperous, has the greatest activity, and is going forward most quickly, like the United States) can have its way. This is only another example of the general maxim: 'To them that have shall be given.' The country that is most prosperous can really dictate, in the last resort, what is to happen to the monetary situation: and it seems to me, therefore, that we have a very grave difficulty, however we decide to behave, as between the different countries. I am not quite sure whether the ideal state of things would not be for each country to have its own independent monetary policy: but that, of course, would conflict with the international aims which are at present before us.

Mr. E. M. H. Lloyd: I should like to ask a question. The League of Nations Statistical Year Book gives a production index for foodstuffs and raw materials. I do not know how much importance can be attached to the exact figure, but the average increase over the five years ending in 1928 comes out to exactly 3 per cent. per annum. The interesting point is that foodstuffs increased only 2 per cent. per annum; while raw materials, mostly for industry, increased by 4½ per cent. That brings me to what I want to ask. Would not this policy be undesirable from the point of view of agriculture?

If you are taking a long view, say over the next fifty years, is not the real problem to maintain the food supply of the world? When talking of increasing productivity reference is always made to the motor-car industry. But agricultural productivity is not increasing as fast. Therefore, would not this policy of a gradual reduction in the price level of 3 per cent. per annum tend to have a dangerous effect on the future food supply of the world?

Mr. A. W. Flux: I have been trying to orient myself in the discussion, and am not sure that I have yet succeeded. Mr. Lloyd referred to the figures mentioned by Mr. Robertson, which served as the basis of a large part of his consideration of what we ought to do.

There was a provisional hypothesis—I wish to emphasize that that is my attitude towards it—that productive activity is increasing faster than population. This is not the occasion, I understand, for going into the facts of that question, but I should like to emphasize that it should be treated as a very provisional hypothesis.

The figures Mr. Lloyd has referred to are figures of expansion over a period beginning with a state of severe depression and ending in a moderate state of economic activity; and we ought not to take this as a measure of the normal trend; nor should we base a permanent policy on the conclusion that productivity has, over the last few years, increased faster than the monetary supply of gold. The measure of productivity may itself need some deduction, for reasons cognate to those which have been mentioned with reference to accumulations of gold. Similar considerations are familiar with reference to accumulations of capital; we are constantly being told that the nation is accumulating capital at a considerable rate, and we find, after a time, that the capital we have does not show a net increase which at all corresponds with the degree of increase thus assumed, based on current estimates of savings, without adequate allowances for depreciation and obsolescence. Such considerations, however, need not prevent us from discussing what policy we ought to follow if it were true that money supply does not keep pace with production.

I am reminded by much that has been said this evening of the situation in which I found the discussion in Cambridge some forty years ago, when I first became interested in it. There I found there were two schools of thought. If I may venture to connect definite names with those schools, there was, on the one side, Professor Marshall, who held that, in its psychological effect, on the whole a slowly falling average of prices was likely to exercise a more healthy influence in the field of industry than a slow rise in prices, on the ground that the former condition was one which demanded from the leaders of industry real vigour and activity, which prevented those remaining as leaders in industry who did not possess a brain capacity well above the average, or at least an industrial efficiency well above the average. Steadily, even if slowly, rising prices would permit those to remain as leaders who were of no outstanding capacity, their deficiencies in initiative, individuality, and vigour being compensated for by the fact that prices were helping them out of the difficulties resulting from the lack of a high order of mental, or at least of business, capacity.

On the other hand, Professor Foxwell held that the stimulus provided by hope, and the realization of immediate results to those who

happened to be in control of industry, would be likely to be effective in pushing industry forward, while the depression that comes from a fall in prices, however slow, was bound to hold back the progress of industry.

I must confess that, personally, I feel on the whole inclined to sympathize with the first view, that is to say, that, for the welfare of the world as a whole, we shall have to look to pressure upon those who possess the power of leadership to exercise their capacities to the very utmost, in order to save themselves from mediocrity or ruin, and that, on the whole, that situation is likely to be better for the world than the position that enables capacities not very much better than the average to remain in control of business because of the steady stimulus of a rising price level.

Those who believe in the tonic effects of a struggle with the difficulties of a slow downward drift of average prices may, perhaps, be called optimists, and those who are partisans of a slowly rising average price level might have to be ranked as pessimists. If we picture to ourselves, for convenience of argument, a ranging of industrial leaders in line in the order of their capacities to overcome the difficulties, not only of organizing industrial or commercial enterprise, but of a struggle against falling prices, the optimists believe that there is an adequate supply of ability to do the work of the world without drawing on that part of the line in which those are found who cannot survive unless prices are rising, while the pessimists believe that a reliance upon the leadership of at least some part of that section of the line is essential for the satisfactory maintenance of economic activity.

In actual practice, of course, it has not been overlooked this evening that prices do not all move in the same direction, and that a steady average level of prices—in whatever sense we interpret such steadiness—is quite consistent with falling prices in some industries and rising prices in others, these movements being subject to change from time to time. In desiring a steady average, we are desiring that the monetary influences shall not incline the balance in such a way that either of the two groups of industries—those with falling prices and those with rising prices—shall be favoured or penalized.

Mr. Norman Crump: I think that fears that prices might return to their relationship of 1913 are unfounded. Whatever happens to prices, it is most unlikely that they will return to their 1913 position, though it is conceivable that they might sink into a worse relationship. In general I deprecate any attempt to relate prices to-day to their

position in 1913, and I think that such a course of action will only give rise to misconceptions.

With reference to the point of difference that arose between Professor Sprague and Dr. Coates, I am on the whole inclined to side with the latter, simply because too much emphasis cannot be laid upon the psychological aspect. In general, the first effect of a fall in the cost of living, and so an increase in real wages, is to make the worker think that at last he has a little more margin in hand after paying for the necessities of life. It is the hardest thing in the world to get him to see that he ought to accept a reduction in wages and so sacrifice the margin.

On the wider question of price changes, I have one final point to make. It is that it is a little dangerous to discuss their causes and consequences before getting a clear idea of exactly how to measure them. Practical knowledge of price index numbers is of very valuable assistance when it comes to the question of determining the significance of any particular movement.

Selection of Comments on the Proceedings

Mr. J. R. Bellerby: In regard to Mr. Robertson's four points in connexion with the case for slowly falling prices [1]

1. Might it not be reasonably held that equity involves a gradual reduction of the rentier's share of the national income?
2. A decline in the price level tends to create wide divergences in wage rates, owing to 'sheltered' and 'unsheltered' conditions, and thus increases rather than decreases friction.

   Further, if the price level falls in proportion to the increase of labour efficiency, money wages, on the average, will remain stable. In consequence, any increase of money wages secured by a strong union can only be secured at the expense of, and by forcing down, the money wages of other workers.
3. It seems that there will only be undue 'enforced saving' if wages fail to rise step by step with the increase of efficiency. (This is of course not quite true, as rent and fixed interest remain unchanged over fairly long periods.)
4. There appears to be an admissible argument that a downward movement of the level of prices, by increasing the pressure on producers, stimulates them to greater effort. For instance, it is said that, at present, the process of rationalization is being hastened as a result of the severity of the price depression, and

[1] See p. 21, above.

that the ultimate effects will be beneficial. This seems to imply, however, that, if the good effects are to be secured, there must at some time come an expansion of the market, aided by an expansion of credit and a recovery of prices.

Probably this argument does not apply as fully to a situation in which prices fall owing to increased efficiency, but I think it has some application.

One cannot avoid a feeling that Hamlet is missed out when there is no mention of the effect on employment. A fall of prices preceded by an increase of efficiency usually results in some degree of depression, affecting mainly the labour market. The first effect of an increase of efficiency, through rationalization, increase of hours (e.g. in coal-mining), or other causes, is to throw men out of work.

When, as a result of the fall of prices, consumption expands, there is still a problem of unemployment until workers can be transferred from industries with an inelastic demand to those with an elastic demand.

But Mr. Robertson makes a truly hair-raising suggestion when he proposes at the end that wholesale prices should fall 3 per cent. per annum. This, apparently irrespective of the rate of increase of efficiency. It seems safe to say that were his suggestion to be put in effect from now onwards, Great Britain would *never* escape from depression.

Mr. D. T. Jack: Special importance seems to attach to the problem of price policy under conditions of an international gold standard rather than under conditions of a closed system for any one country. The problem also appears to be one which concerns the course of the world price level, and in legislating for that problem it seems to be impossible to avoid inequity for every country. That rather follows from the fact that increases in (*a*) population and (*b*) productive efficiency do not occur uniformly for all countries. Therefore, assuming a 3 per cent. per annum fall in world prices to be appropriate for countries of greatest progressive efficiency, some special check seems likely to be imposed upon other countries of lesser productive efficiency. Similarly the selection of a smaller percentage fall might have an inflationary effect upon countries of greatest progressive efficiency. And the question then arises as to whether that last result might not mean the stimulation of industry in the most progressive countries at a pace which could not be maintained, with the result that periodic crises and checks to production would be generated.

Of course, just as different countries have different rates of increase

of efficiency, so do different industries have different rates of increase. Mr. Lloyd raised the point by suggesting that agriculture did not increase so rapidly as manufacturing industry. And taking 3 per cent. as the annual rate of increase of efficiency appropriate to the latter, he suggested that a price level which declined at that rate would have an adverse effect upon the agricultural industry. The answer which suggests itself is that under the conditions presumed the *real* price of agricultural products would rise relatively to the *real* price of manufactured products, and psychological reactions apart, such a falling price level might not adversely affect agriculture.

The psychological aspects of a falling price level cannot, however, be ignored, and it might perhaps be desirable to allow the world price level to fall rather less rapidly than might be suggested by the rate of increase of efficiency. There seems to be reason for the view that in periods when the secular trend of prices is upwards, years of prosperity are more numerous than years of depression, while when the secular trend is downwards years of depression are rather more numerous than years of prosperity. Finally it may be suggested that further inquiry into questions of price spreads may be necessary before a satisfactory answer can be given to the points raised by Mr. Robertson. But that is quite consistent with his conclusion that 'it would be better to stabilize something than to stabilize nothing'.

Mr. G. H. Baxter: There are really two main questions to be answered, one as to the aim, i.e. What do we wish to achieve? ; the other as to the machinery, i.e. How is it to be achieved? Leaving aside the second question, of which Sir Josiah Stamp made a broad analysis at the opening meeting, we are presumably all agreed that the answer to the first, in general terms, is stabilization of prices in terms of gold.

I cannot agree with Professor Gregory, who tried to distinguish between the questions 'How do we want gold to behave?' and 'How do we want prices to behave?' The two questions are really the same, and may be put more precisely in the form, 'How do we want the relation between gold and goods to behave?' We want it to be stable. We want the money equivalent of one ounce of gold always to purchase, subject to the narrowest possible fluctuations, a given quantity of goods. Here we have a sort of equation: on one side is 'One ounce of gold', which fortunately offers little ground for doubt or ambiguity. The principal questions which arise, in this division of our inquiry, are as to the meaning to be attached to the other side of the equation; there being two points, which though inter-related can to a great

extent be considered separately, viz., what we are to mean by 'goods', and what we are to mean by 'a given quantity'. As regards the former it has to be considered:

(a) which of the 'things on which income is spent' are to be included, e.g. questions as to securities, capital, goods, wages, entertainments, and the wholesale or retail basis for commodities, and

(b) when we have got our definition of goods, how we are to strike a satisfactory index which shall be sufficiently valid in the most backward, most advanced, slowest, and most progressive parts of the world, and over epochs when the relative importance of the various kinds of goods may widely vary. These are questions which cannot be tackled at all except on the basis of very full data provided by the research of practical statisticians.

Turning to the other point, as to what we are to mean by 'a given quantity' of goods, there is, as our discussions and Mr. Hawtrey's recent paper [1] have already indicated, a choice between two alternatives, with of course the third possibility, which I doubt if any one would advocate, of some kind of compromise between them. The first is that the money equivalent of an ounce of gold should always buy the same absolute quantity of goods, the second that it should buy a quantity of goods representing a fixed proportion of the world's *per caput* production (or *per caput* holding) of 'goods'.

The most obvious practical difference in effect between these is that, on the assumption that world productivity will continue to increase, the proportionate system would result in a gradual fall in prices, while the 'absolute' system would stabilize prices, or rather the average of prices, for all time. The difference would, in the long run, mainly affect the relative position of those with fixed money claims and those whose claims are marginal. If we regard the former as debenture holders in the World Limited, and the latter as ordinary shareholders, the effect of the proportionate system would be that in future all the debentures would be participating. There seems little doubt that, on grounds of abstract equity, this system is preferable. Although it might be argued that its initiation would confer undeserved benefit on those with existing fixed money claims, such benefit would be much less violent in character, and less disturbing to the rest of the community, than the benefits and detriments which accrue to this class through fluctuations in money value under the

[1] 'Money and Index Numbers,' *op. cit.*

present uncontrolled system. Moreover in the case of fixed money claims arising after the initiation of stabilization on these lines, the benefit could no longer be regarded as undeserved, since presumably it would be taken into account along with other factors when the claim arose. It should be added that if the prospect were that productivity was likely to decrease rather than to increase, the proportionate basis of stabilization would almost certainly have to be preferred to the other, since it would be difficult to defend to the public at large the permanent entrenchment of those with fixed money claims in a position secure from the depreciation suffered by the community generally.

Practical considerations, however, point the other way, and my own feeling is that they far outweigh the theoretical arguments outlined above, especially when it is borne in mind that such a measure as we are contemplating constitutes a definite intervention in every transaction in the economic life of the world, and must be capable of being successfully defended *vis-à-vis* the general public.

The main considerations seem to be:

1. Difficult as may be the institution of a satisfactory index for a fixed price level, still more awkward problems seem involved in the search for a criterion to guide with any exactitude (and with a minimum of the element of 'trial and error') those entrusted with the management of a system of prices varying inversely with productivity.
2. Any measure of general stabilization will require the concurrence of the great mass of intelligent, but non-technical, opinion in the principal countries. Such opinion (*a*) will find the actual fixation of prices more intelligible; (*b*) tends, on balance, to suspect any measure which appears deflationary; and (*c*) would probably tend, by a majority (in influence if not in numbers), to oppose anything appearing to enhance the rentier's claim.
3. Rising wages are a more perceptible, and therefore a more appreciated, benefit than falling prices.
4. While it is true that, price movements being more automatic than wage changes, there would be some lag in the benefits of increased productivity being passed on to wage-earners, this drawback is much more than offset by a connected advantage of the 'absolute' system. Under the latter, in a given country, the result of markedly increased productivity in countries abroad would be that prices, and wages also (assuming static

productivity in the given country) would remain unchanged. Under the 'proportionate' system the situation indicated would mean a fall in prices in *all* countries, coupled with maladjustment between wages and prices in the static country, necessitating wage reductions as the alternative to continued dislocation.

Mr. Keynes put forward, as one of the propositions which might command our general agreement, a suggestion that 'it may not make a great deal of practical difference upon what brand of stability our first preference rests'. I would suggest that for this should be substituted the slightly different proposition, that the attainment of stability so far transcends the differences between the theoretical merits of particular brands of stability that we are justified, when selecting our brand, in having an eye mainly to the practical questions, (1) which brand can be introduced with a minimum of opposition, and (2) which brand will be the smoothest in working.

MR. R. G. HAWTREY: If I may make one comment of a personal kind, it is that Mr. Robertson is mistaken in supposing me to be a recent convert to the view that the price level ought to fall with an increase (or rise with a decrease) of productivity. Writing in 1919[1] I suggested that 'the value of the monetary unit in terms of human effort should be kept fixed', and in 1922[2] I pointed out that 'Any available index number is bound to be affected by price variations in particular commodities arising from non-monetary causes, such as harvest conditions, new inventions, discovery or development of new sources of supply or exhaustion of those that exist. A blind adherence to the index may hide a real departure from the path of stabilization'.

The paper which I read in December to the Royal Statistical Society was little more than an elaboration of these two passages.[3]

Mr. Robertson expresses this principle in terms of productivity 'per head'; I think it ought to be expressed in terms of productivity per unit of productive power or of real costs. Real costs should include interest and depreciation, and the cost of management, supervision, &c., should be estimated not by the numbers employed but by the value of the services rendered.

Mr. Robertson says that 'you cannot in the long run equate all other productive services with labour'. For this he gives no reason.

[1] Hawtrey: *Currency and Credit*, 1st ed., p. 374.
[2] Hawtrey: *Monetary Reconstruction*, 1st ed., p. 143.
[3] 'Money and Index Numbers,' *op. cit.*

What I said in my paper on 'Money and Index Numbers' is too long to repeat here, but it was subject to many very careful qualifications. The principle involved is not essential to the practical proposals contained in my paper but was invoked only for the sake of their theoretical interpretation.

I think Mr. Robertson has also misunderstood what he calls my 'emasculated index number'. My proposal is not to form an index number out of these products which are not exposed to non-monetary disturbances of price, but, in using the guidance of an index number in the regulation of credit, to eliminate those products which *on that occasion* are known to have been seriously affected by non-monetary causes. Usually a very limited number of products would have to be excluded.

When he recommends us to let the index number fall 'by some percentage arrived at by correcting an index of production by an index of population' he is offering altogether too rough and ready a method. The corrections must often be for varying crop yields, and could not be made satisfactorily through an index of production.

Further, it is a mistake to suppose that the increase in productivity through discoveries and improvements occurs gradually and at a rate which can be measured by an index of production. A part of the growth in production is due not to improvements but to increased capital equipment, and the improvements when they do occur are likely to affect a small number of products at a time and to affect them almost discontinuously.

Dr. Coates expressed a fear that the expectation of a fall of price due to improvements in production would cause a restriction of enterprise. But such improvements cannot in general be foreseen. When they are first shown to be practicable they do indeed involve every one interested in the old processes, as well as holders of stocks, in loss. But this loss does not discourage enterprise, for the future production is in the hands of those who apply the new processes. The loss, however deplorable, hardly seems to be of the kind for which a general rise in the commodity price level would be an appropriate remedy.

It might be that the expectation of *continual* improvements in production would lead traders to hold smaller stocks. But this in itself would not cause depression once the initial reduction of stocks was past. It is not by low stocks, but by a reduction of stocks that a depression is caused.

Mr. J. H. Penson: The principal comment I have to make on Mr. Robertson's address is as to his proposition of slowly falling

prices at a time when productive efficiency is increasing. *Prima facie* I am inclined to agree that much can be said for this. Moreover, two of the difficulties Mr. Robertson discusses seem to me to admit of fairly simple treatment.

First, as to the position of traders: I do not feel quite satisfied as to his argument on page 22, and especially the assumption of a normal and irreducible period for holding stocks. The explanation appears to me to be as follows. The fall in prices in the given circumstances would be unlikely to be a gradual fall of all prices at the same time. The wholesale price of a given commodity would tend to fall in a series of drops, fairly widely separated in time, as improvements in production are introduced. Retail prices would not fall immediately, but only when the commodity begins to be generally available at the lower price, and the average trader, who had only moderate stocks when the fall took place, would not be likely to lose, whereas the fortunate trader might even gain. Then, as there was no necessary prospect of a further drop in the price of the particular commodity owing to another increase in productive efficiency, traders would not be discouraged from continuing to maintain normal stocks. The position should be clearly distinguished in this way from that in which there is a steady fall in the price of all commodities due to a policy of deflation.

Secondly, Mr. Harrod's dilemma, that if you let prices fall in proportion to the increase of efficiency in America you would have a depressing effect in England, seems unnecessarily extreme. You would not take the productive efficiency of the most efficient country as your guide; rather, I think, the policy should be to secure by international co-operation that the fall in prices did not do more than keep pace with increasing productive efficiency in the *average* country, corrected of course by the index of population.

Nevertheless, I am inclined to think that on the whole a policy of stable prices would be better even if productive efficiency were increasing. In the first place there seems no reason to allow the creditor to get more than he has bargained for. It is most unlikely that he would, in making his bargain, allow for a fall in prices. Therefore, why give him an uncovenanted benefit?

Then as to the wage-earner and salary-earner, there is distinct psychological advantage in allowing them to see their earnings rise in terms of money, and with increased public control—such as we may expect—over the accounts and profits of undertakings, the claims of salary-earner and wage-earner should be more easily substantiated.

Thirdly, subject to an increase in the money value of salaries and wages, even if a certain amount of forced saving does take place, it is probably a good thing at a time of increasing productive efficiency.

Turning to the remarks of the other speakers, I cannot help thinking that Dr. Coates' point of view must now be regarded as out of date. Time was, no doubt, when it would have been worth while for society to allow prices to rise slowly in order to gratify the psychology of the producer and trader. But that time has passed. At best it was an inefficient means of stimulating production. Nowadays, when large efficient enterprises provide more and more for scientific costing and for the study of prices, in particular the prices of the commodities in which they deal, it will be decreasingly worth while to grant the artificial stimulus of a rising price level. Socially, owing to the usual lag in wages, a rise in price level in the circumstances we are envisaging would involve injustice. In short, I think the old controversy, to which Mr. Flux referred, of some forty years ago, has no longer much practical value.

I am myself in agreement with the general observations of Dr. Sprague, but they cover perhaps a wider field than that of the second meeting itself. I feel that the most useful line of advance for this group will probably be that of investigating the true economic use of reserves and the proportion of credit which can be built upon them. I think that with the increasing international co-operation which this group has in view, a very great increase in the structure of credit may be found to be possible, which will largely neutralize the possible ill-effects of a decline in the supply of gold. But this opens up rather a wider field than that of the second meeting.

I have already referred to Mr. Harrod's remarks. The position in which it is true that 'to him that hath shall be given' is what we find to-day. But it need not always be so, and the very object we have before us is, I understand, the education of public opinion with a view to greater international co-operation in future. This should eliminate the chances of one country going ahead on a path of deflation to the detriment of others.

Mr. W. H. Mainwaring: The discussion as a whole seems to have been inspired by the fear that within the near future the world will be faced with a serious shortage in the available supply of gold, and has taken the direction first of seeking to elucidate why and how gold as money fulfils its several functions. A suggestion has been advanced, too, that it might be helpful if a statement were made defining the manner in which it is desired gold should act.

It seems to me futile to discuss how one would like things of the nature of economic laws to act. The principal thing is why and how do they operate. These matters understood, questions of whether it is within our power to modify their effect or to eliminate them altogether become immediately practical.

The various speakers seemingly agree either that there already is a shortage in the available supply of gold or there is great danger of its being the case in the near future. If such fears are well grounded then changes must take place in the relative value of gold to other commodities and it is not at all unlikely that other far reaching effects will follow.

Such a shortage in the supply would cause prices of all other commodities to fall in sympathy with the changed value of gold and at the same time, the basis of credit being affected, it would bring about a contraction in the available supply of that commodity.

Against this tendency of reduced supply there is, as mentioned in the course of the discussion, the factor of a more economic use of the available supply and the development of banking, together with a change in the habits of the people. These changes permit of a greater degree of centralization; have indeed, in so far as gold is eliminated from active circulation, added to the central reserves and had an effect similar to increased gold production, apart from which the fears at present held would be considerably accentuated.

These economies are perfectly legitimate and, provided they are kept within given limits, can have no ill-effects; excepting, however, that the fact of its having been possible to eliminate gold from active circulation nationally is not, and ought not to be, regarded as evidence of ability also to dispense with it internationally.

The suggestion that it is possible and practical to reduce the price level annually in order to remedy the shortage in the supply of gold begs the whole question. If a reduction in the price level could not be brought about excepting by means of an agreed annual percentage to be enforced at a given time, then the proposal amounts simply to one of giving to gold an artificial value—a value higher than it really possesses—by means of which it can purchase larger quantities of other commodities.

If a proposal of giving gold a fictitious value were not only deemed possible but also practical there would be some reason for assuming the further possibility of giving to a commodity of comparatively no value, paper, the necessary value relation to fulfil all the functions of money at present carried on by gold. That indeed would be an ideal solution to the whole problem.

It seems to me a very great assumption to make that a managed price level to be reduced annually would have no ill-effects upon industry and commerce. There is no doubt in my mind that such a proposal if acted upon must have precisely the same effect as economic law itself will have where there exists quite definitely a shortage in the supply and an increase in the cost of producing gold. The cumulative effects arising out of such a situation might well imperil the whole economic system.

MR. R. G. GLENDAY: Looking, as I do, at monetary problems from the business man's point of view, I am conscious of a sense of 'unreality' about most of Mr. Robertson's arguments. So long as I am prepared to accept as *real* his 'through the looking-glass' world, I am able to appreciate both his premisses and conclusions. Once, however, I am back in the everyday business world, in which we most of us unfortunately have to live, the ideas which appeared so reasonable and helpful in his imaginary world seem to have little or no contact with reality. Let me give two examples:

In Mr. Robertson's economic 'Wonderland' a 3 per cent. fall in the wholesale price index seems to be the ideal to be aimed at; in the actual business world of 1920–30 it is precisely because the price level *has* been falling about 3 per cent. per annum that life has become so intolerable.

An equally serious—though less obvious—contradiction appears to pervade his consideration of price levels. This concept appears to be a kind of 'mirrored image' of the *average* of prices. As applied to the circumstances of the business world this concept appears to me to give an almost fantastic picture of its operations. The activities of industry and commerce comprise a *moving sequence* of prices. It is the relation between the items in this sequence which govern the degree of profitableness of the operations of production and marketing. An *average*, as it were, of such moving sequences, since it ignores the dynamic element, in effect represents a *stationary* system.

This failure to visualize industry as a series of *moving* processes appears to me to vitiate most of the arguments in connexion with the way in which industry adjusts itself to a falling general price level. In real life long before there has been anything which can be safely regarded as a fall in the general price level, there have been sufficiently marked movements in the individual commodities and cost items to set in train marked changes and adjustments in the operations of the industries affected by them; that is to say, the operations of industry change with the movements of *individual*

prices and not with those of an *average* of prices (i.e. the general level).

Since post-War experience of depreciating currencies suggests that the time taken for the various items entering into costs of production of the major industries (i.e. materials, wages, transport charges, taxation, &c.) to adjust themselves to monetary changes may amount to anything up to three or five years, Mr. Robertson's omission of all reference to this aspect is to be regretted. It appears to me to dispose almost completely of his reply to Dr. Coates' arguments. The effect of monetary changes on the output of industry is, I believe, much more important to the national well-being than its effects on the *division* of that output. I observe that Mr. Robertson commences by commending as a proposition which should command universal assent, that no one desires to restore the value of money to the pre-War level, and then concludes with a recommendation which it appears to me must infallibly produce that result within less than a decade (i.e. a 3 per cent. annual fall in the wholesale price level)! [1]

Mr. C. H. Kisch: It is more difficult for industry to carry out the adjustments in costs required to meet falling prices than it is for industrial workers to adjust their position at a time when prices are stable and costs of production are falling. Such a position, presumably being advantageous to industry, enables the workers to put forward their demands with the prospect of obtaining some share of the general advantage. The case for permitting the rentier to benefit by slowly falling prices is based by Mr. Robertson on the view that the government creditor 'has played his part in creating the environment which has made technical progress possible. People with fixed incomes are probably being harried quite enough by direct taxation'. This conveys a suspicion of special pleading. The rentier appears to be entitled to a constant return in real value and to nothing more. It does not appear to me to be the case, as has been suggested, that when a man provides for his dependents to receive an income representing so much real value he is considering the relative position he wishes these dependents to enjoy as compared with other groups in the community. It seems rather that he is concerned with providing for them a certain absolute standard of satisfaction so far as this world's goods are concerned. From this point of view one would be able to make out a case that in the event of production increasing in greater proportion than effort he has no particular reason to benefit

[1] A letter from Mr. Glenday published in the *Economist* of 4th July, 1931, states his case at greater length.—*Ed.*

thereby. The case of the rentier appears to be one of the strongest grounds for the doctrine of stability in the price level and for utilizing monetary policy so far as may be to counter the tendency of prices to fall through production increasing in greater ratio than the effort required. Admittedly in such a case persons with relatively fixed incomes, such as salaried classes, would not benefit, but it is open to them, as it is also to workers generally, to present their case for improved money incomes, which the increase in prosperity postulated may enable to be granted without detriment to general interests.

Mr. D. H. Robertson (July, 1931): I have been invited to reply briefly to my critics: but indeed I have little to add. The events of the eighteen months since my paper was read have confirmed rather than shaken me in the belief that the maintenance of an even rate of industrial progress, difficult enough in any case, will be rendered more difficult still if the world commits itself to the view that, however great the improvements in technical efficiency, prices ought never to fall. Looking back, it becomes, I think, more and more arguable that the great American 'stabilization' of 1922–9 was really a vast attempt to de-stabilize the value of money in terms of human effort by means of a colossal programme of investment in buildings, motor-car plants, &c., which succeeded for a surprisingly long period, but which no human ingenuity could have managed to direct indefinitely on sound and balanced lines. It becomes plainer too, I think, that the disastrous slump in the prices of many foodstuffs and raw materials has been in part, at least, a nemesis for ill-considered efforts (greedy in the case of low-cost producers, pathetic and futile in the case of high-cost ones) to hold up prices in the face of falling costs. If the business man's psychology jibs at swallowing the moderate price falls dictated by increasing productivity, he renders himself more and not less liable to suffer the catastrophic price falls due to industrial dislocation and crisis—that is my case.

I do not know why Mr. Bellerby should suppose that I advocated a 3 per cent. per annum price fall 'irrespective of the rate of increase of efficiency'. The 3 per cent. was, of course, intended as a guess at the secular rate of increase of efficiency, but it may be much too great—I was, at the time of reading, strongly impressed by the evidences of rapid growth in recent years which Mr. Loveday discussed a few months later in his stimulating essay 'A Record of Progress, 1925–9'[1]—and I willingly accept Mr. Flux's words of caution on the subject.

[1] Loveday: *Britain and World Trade*. 1931. (London: Longmans, Green.)

With Dr. Coates and Mr. Glenday I feel it is not much use for me to argue. Dr. Coates speaks with the voice of the inflationist entrepreneur of all ages, claiming that the scales must always be weighted in his favour if he is to do his job properly; and Mr. Penson has answered him. Mr. Glenday seems to think that improvements in productivity only happen in Wonderland, and that discussion of what happens to the general price level, as distinct from the prices of individual commodities, is uninteresting. He accuses me of ignoring the relation between prices at successive stages of the industrial process—e.g. presumably between wage costs and selling prices, between prices at wholesale and prices at retail—which was in fact the main subject of my paper.

Mr. Kisch puts the case against me on grounds of equity moderately and clearly; I respect his arguments, but agree rather with those of Mr. Hawtrey, to whom I take this opportunity of apologizing sincerely for the unfounded suggestion that he was a recent convert to the point of view so ably expounded in his paper of 1930 to the Royal Statistical Society.[1] My points of difference with him are too intricate for discussion here. He and Mr. Penson may be right in thinking that increases in productivity come about so discontinuously that the difficulties about the position of the merchant which I tried to face in my paper do not arise; I hope so, but I do not feel sure.

I am impressed, as I said in my paper, by the international difficulties discussed by Mr. Harrod and Mr. Jack. A solution must probably be sought along the lines indicated by Mr. Penson. But we must remember that under no system of monetary policy can things be very pleasant for a country which finds the productivity of other countries in *competitive goods* increasing faster than its own.

Mr. Baxter agrees with me in theory, but thinks the policy of stabilization of selling prices more practicable. But is it? To me it seems likely, as I hinted at the beginning of this note, to add to the practical difficulties, in any case sufficiently great, of those who are responsible for the orderly and balanced distribution of credit supplies.

[1] 'Money and Index Numbers,' *op. cit.*

MEMORANDUM ON GOLD PRODUCTION[1]

By JOSEPH KITCHIN

I. GOLD PRODUCTION OF THE PAST

1. The world's output of gold advanced greatly after the discoveries in California and Australia in 1848 and 1851, and the following gives a summary, mainly by centuries, from the earliest recorded figures:

(In millions of pounds at 84/11½ per fine oz.)

	Century's output.		%	*Aggregate output.*	*Annual rate.*		*Century's increase.*
1493–1600		103·2 =	2·4	103·2		0·97	
1601–1700		124·6 =	2·8	227·8		1·25	21·4
1701–1800		259·9 =	5·9	487·7		2·60	135·3
1801–1850	162·0			649·7	3·24		
1851–1885	858·9			1,508·6	24·54		
1886–1900	547·6	1,568·5 =	35·5	2,056·2	36·31	15·68	1,308·6
1901–1929		2,355·6 =	53·4	4,411·8		81·23	
		4,411·8 =	100·0				

2. The following gives the record by countries, those specified accounting for 80 per cent. of the total output to date and 91 per cent. of the 1929 output. The countries are arranged in the order of their beginning year, i.e. the year when the output commenced to be of more than insignificant size:

	Year of discovery.	*Total output to end —1929.*	*Year's record output.*	*Discovery to record year.*	*1929 output.*
		£ millions	£	years	£
Russia .	1814	389	7,300,000 in 1910	96	5,000,000
United States	1848	931	20,800,000 in 1915	67	9,100,000
Australia .	1851	720	18,400,000 in 1903	52	2,500,000
Transvaal .	1888	1,018	44,300,000 in 1929	41	44,300,000
India . .	1889	73	2,500,000 in 1912	23	1,500,000
Mexico .	1894	152	5,100,000 in 1910	16	2,500,000
Canada .	1896	147	8,100,000 in 1929	33	8,100,000
Rhodesia .	1900	71	3,900,000 in 1915	15	2,400,000
West Africa .	1903	29	1,700,000 in 1914	11	800,000
		3,530			76,200,000
Rest of World		882			7,300,000
World's total since 1493 .		4,412			83,500,000

[1] Originally submitted to the British Committee on Finance and Industry. This memorandum was sent to members of the group as an introduction to the paper which Mr. Kitchin read on 26th February, 1930, and which is reproduced on p. 56 below.

3. The Transvaal now ranks first and the United States second in total and present output. Of the Transvaal production the Rand district accounts for 99 per cent., the Indian output all comes from the Kolar district of Mysore, most of the Canadian total is derived from the Porcupine and Kirkland Lake districts, and most of Australia's total from the Kalgoorlie district of Western Australia, while in the case of the other countries and the rest of the world the production is spread over many districts and is small for individual mines.

4. The foregoing tabulation indicates that there is a tendency for gold countries to reach their zenith more speedily with the progress of time, which is perhaps an indication that the newer goldfields are more intensively worked. So far as present indications go it appears that, of the nine countries, all except the Transvaal and Canada have already passed their zenith, though the two exceptions account for 63 per cent. of the present rate of production. Apart from the two countries just mentioned the record years all came within the period 1903–14.

5. Most of the countries have shown swings from low to high points and vice versa, and in the following tabulation they have been arranged in order of highest annual production, which is also, with one or two exceptions, the order of present output. Record years are given in italics:

	High.		*Low.*		*High.*		*Low.*		*1929.*
		£		£		£		£	£
Transvaal .					1916	39,500,000	1922	29,800,000	*44,300,000*
United States .	1853	13,100,000	1883	6,200,000	*1915*	*20,800,000*	1927	9,100,000	9,100,000
Australia	1853	12,700,000	1886	5,300,000	*1903*	*18,400,000*	1929	2,500,000	2,500,000
Russia .	1871	5,400,000	1886	3,800,000	*1910*	*7,300,000*	1920	200,000	5,000,000
Canada .					1900	5,700,000	1907	1,700,000	*8,100,000*
Mexico .					*1910*	*5,100,000*	1914	100,000	2,500,000
Rhodesia .					*1915*	*3,900,000*	1929	2,400,000	2,400,000
India .					*1912*	*2,500,000*	1929	1,500,000	1,500,000
West Africa					*1914*	*1,700,000*	1928	700,000	800,000
						104,900,000			76,200,000

The present yield of these nine countries is therefore 27 per cent. below their record annual output when added together irrespective of date. The low points of the Transvaal in 1922 and of Mexico and Russia in 1914 and 1920 were severely reduced by the white miners' strike on the Rand and by the revolutionary troubles in the last two cases, so that they are not representative of normal conditions.

6. As regards the world as a whole the production advanced from £6 millions in 1847 to £30,700,000 in 1853. In those days—it is very different to-day—the bulk of the gold won was derived from alluvial, and as this was gradually worked out the output fell to £19,600,000 in 1883. A few years later the Rand district of the Transvaal was discovered and several of the countries also increased their production, but the Transvaal has the main credit of the subsequent rise, which led to the record figure of £96,400,000 in 1915. After that time (disregarding the year 1922, when

the output was reduced £6 millions owing to the Rand white miners' strike) the total fell to a new low point of £68 millions in 1921, and it has recovered during the last five years to between £81 millions and £83,500,000 (13 to 16 per cent. below 1915) with a slightly rising tendency. Apart from the Transvaal the production has fallen from £57 millions in 1915 to £39,200,000 in 1929. Details of production year by year from the time of record are given in Table II[1] attached.

II. CONSUMPTION OF GOLD

7. In Table I[2] are given particulars annually and quinquennially from 1890 to 1929 (the figures for 1929 being estimates subject to revision) of the consumption of the world's gold supply. The first claims on new gold are made by the industrial arts of Europe and America and by India and, to a minor extent, China and Egypt. When these claims are satisfied the balance is available for addition to the world's stock of gold money. This world's stock has been compiled by the writer simply by adding this balance year by year to an assumed stock of £210 millions in 1847. It therefore does not represent a physical count of the visible money in the world year by year, but has the advantage of giving annual totals over a long period, and it tallies well with physical counts, so that it appears to be largely justified. The stock of gold money so computed omits India, China, and Egypt, where gold money does not circulate and is of negligible quantity.

8. The table shows:

	1835–89 (*55 years*).		*1890–1929* (*40 years*).		*Total 1835–1929* (*95 years*).		*1920–9* (*last 10 years*).	
	£ millions	%	£ millions	%	£ millions	%	£ millions	%
Industrial Arts	371 =	36	665 =	24	1,036 =	27	162 =	21
India's absorption	134 =	13	450 =	16	584 =	15	195 =	25
China & Egypt's absorption	18 =	1	72 =	2	90 =	2		
Total demand	523 =	50	1,187 =	42	1,710 =	44	357 =	46
Added to stock of gold money	514 =	50	1,625 =	58	2,139 =	56	415 =	54
World's output	1,037 =	100	2,812 =	100	3,849 =	100	772 =	100

The data for other periods can be gleaned from the table, but it will be seen that, broadly, the demand is of the order of 45 per cent. of the output, while the remaining 55 per cent. is added to the stock of gold money.

9. If this stock of gold money is suitably charted (vide the writer's statement of evidence in the Report of the Royal Commission on Indian

[1] See Table II.
[2] See Table I.

Currency and Finance[1]) it will be seen that from 1850 to the outbreak of the Great War, and subject to allowance for trade cycle variations, there is a fairly close correspondence between the stock on the one hand and the wholesale commodity prices and the bank rate on the other. The following compares the three factors for a century to the outbreak of the Great War. The years 1848, 1862, and 1894 are those when the annual increase in the stock of gold money changed from below 3·1 per cent. to above 3·1 per cent., or vice versa. As 3·1 per cent. was the average annual increase in the stock from 1850 to 1910, that figure is subtracted from the rate of change in the stock for the purpose of giving a better comparison with the other two factors. The years 1810, 1849, 1873, and 1896 in the case of commodity prices, and 1851, 1865, and 1895 in the case of the bank rate, are the years of major maxima or minima for three-year centred averages. The years 1807 and 1911 are taken for the stock of gold money to allow for the supposed lag of about two or three years in its effect:

Stock of gold money.				*Wholesale commodity prices.*				*Bank rate.*			
	Total stock.	*Increase p.a.*	*Rate of change p.a.*		*3 years average centred.*	*Change in period.*	*Rate of change p.a.*		*3 years average centred.*	*Change in period.*	*Rate of change p.a.*
	£ mill.	£	%			%	%		%	%	%
1807	160			1810	197			1810	5		
		1,200,000	−2·4			−55	−2·0			−49	−1·6
1848	210			1850	89			1851	2·56		
		17,800,000	+2·8			+42	+1·5			+148	+6·7
1862	459			1873[2]	126			1865	6·35		
		10,700,000	−1·4			−42	−2·4			−65	−3·6
1894	802			1896	73			1895	2·20		
		40,400,000	+0·6			+38	+1·9			+90	+3·5
1911	1,489			1913	100			1913	4·19		

The last two factors, with a small lag, rise or fall in their general trend as the rate of increase in the stock of gold money wanes and waxes, and a similar state of affairs would doubtless be found to exist with many other economic factors.

10. The correspondence with the stock of gold money ceases after 1914 for the reasons that War and post-War conditions have upset any comparison and that the item which influences such factors as commodity prices is now not the total stock of gold money but that portion of it which has been collected into central banks and treasuries. The monetary conditions have been greatly changed by the transference of gold from circulation and other banks.

III. PROSPECTIVE SUPPLIES OF GOLD

11. There is reason to believe that 1915 with its total of £96,400,000—apart from some outstanding new discovery—will prove to have been the

[1] Great Britain : *Report of the Royal Commission on Indian Currency and Finance*, vol. iii (Appendices), chart facing p. 524.

[2] There is some reason for taking 1864 (121) instead, and there would then be greater correspondence in time with the bank rate.

zenith of the world's gold output and that, though the production, after falling to £68 millions in 1921, has recovered to £83,500,000 at the present time (55 per cent. of this recovery being due to the New Rand and the balance to Canada and Russia), the prospects are that there will be no further recovery, but rather a decline, increasing with time, after about 1934.

12. The search for gold has grown in intensity for the last eighty years, and the world is now rather fully prospected. The day of the individual digger has largely passed and has given way to work by organized companies. Gold is very largely disseminated in many parts of the world, but is rarely found sufficiently concentrated to be payable. It occurs mainly in igneous quartz reefs or the alluvial derived from their disintegration, and for the most part it is not won in conjunction with other metals. Since 1888, however, it has been won from the banket or 'pudding-stone' of the Rand, a conglomerate of sedimentary formation. The Rand is a district some fifty miles long and consists of an almost continuous series of mines.

13. The change in the production from alluvial to quartz reefs and then to banket can be very roughly illustrated thus:

	Proportions.			*Annual totals.*			
	Alluvial.	*Reefs.*	*Banket.*	*Alluvial.*	*Reefs.*	*Banket.*	*Total.*
	%	%	%	£ millions	£	£ millions	£
1848–75	90	10	*Nil*	21	2,000,000	*Nil*	23,000,000
1890	45	47	8	11	11,500,000	2	24,500,000
1904	18	60	22	12	43,000,000	16	71,000,000
1929	8	39	53	7	32,000,000	44	83,000,000

14. Prior to 1890 the recovery was probably only 60 per cent. of the gold contained in reefs or banket, but, largely because of the adoption of the cyanide process, the proportion is now about 95 per cent., and for some time past it has virtually reached its limit.

15. More than half the world's production is obtained from the Transvaal, all of whose gold, except about £1 million a year, is won from the banket of the Rand district. This district may be divided into two areas—the Old Rand, consisting of the western, central, and near-eastern sections, and the New Rand, consisting of the far-east section from the New Kleinfontein mine onwards. The Old Rand reached its zenith in 1912 with £32,400,000 and it is now producing less than two-thirds of this quantity. Its production is likely to continue to drop markedly. The New Rand on the other hand arose some sixteen years later and is likely to continue to increase till about 1932 or 1933, then to decline moderately till about 1940, after which it will probably decrease at a more rapid rate.

16. The outcrop portions of the Rand mines have been worked out, and operations are carried on at ever-increasing depths, even a mile or more from the surface. In the period 1913–29, 27 mines (26 on the Old Rand) ceased operations, while 7 new mines (all on the New Rand) commenced

production. The number of companies now producing is 33. The output has not fallen in proportion to the number of producing companies for the reasons that the new-comers have worked on a larger scale than the average of the older mines and that several of the companies have added to their areas and increased their milling capacities. Because of the fact that work has to be conducted at increasing depth, the present cost of opening up a new mine is in the neighbourhood of £1,750,000 to £2 millions and the time required six or seven years—a period which tends to increase. This is naturally a great deterrent to the opening up of a new mine, for it requires some courage to subscribe money with no possibility of a return for many years and with no certainty of the mine then being payable, for much of the money has to be risked long before the value of the property can be even approximately gauged. The last mine started production in 1924—over five years ago—while as regards producers which are still to come, two are likely to add to the output from 1932 and 1934, one other is in the developing stage, and apart from those there are three or four which may help to minimize the fall in the output.

17. Canada produces under 10 per cent. of the world's production but from 1907 to 1929 it has shown a fairly steady progress from £1,700,000 to £8,100,000 and will doubtless go further yet. Russia and Mexico may increase their present totals of £5 millions and £2,500,000 moderately. The United States, at present holding second place with 11 per cent. of the output, has decreased rather precipitately from £20,800,000 in 1915 to £9,100,000. Australia has fallen practically every year from £18,400,000 in 1903 to £2,500,000. All countries except the Transvaal, Canada, and perhaps Russia and Mexico seem likely—collectively if not individually—to decline.

18. It has already been indicated that little is to be hoped from improved metallurgy, while the limits and possibilities of existing goldfields are perhaps fairly known. Subject to the qualification as to the possibility of some outstanding new discovery, there seems to be no prospect that the world's production will advance more than very moderately beyond the present level. The question as to whether there is anything in this qualification is, therefore, vital. The Rand is unique alike in its formation and its rate of production, and one can hardly expect another Rand to be discovered. At any rate over forty years have passed without a suggestion that anything of the kind is probable, and the fields which have since arisen (vide paragraph 2) have not attained very considerable proportions. Apart from the Rand, no single goldfield has ever in history reached a maximum output of more than about £5 millions per annum or has lasted any appreciable time without showing a marked decline. The Klondyke district is a fairly recent example; and it would require several goldfields of the order of £5 millions per annum—only 6 per cent. of the present world output—to offset the decrease which is in prospect with time. Moreover, if there is any important new discovery it will (unless alluvial is concerned) reach appreciable figures only after many years' work. While it would not be

reasonable to dismiss the possibility of considerable additions from new sources—the analogy of the history of gold itself and of other metals forbids that—it is not prudent to attempt to speculate on what is unknown and unassessable.

19. The writer has made as careful an estimate as possible of the probable world output up to 1940. In the case of the Transvaal, in respect of which he has the advantage of special knowledge, the lives, outputs, and prospects of 39 mines (including 6 not yet producing) have been separately calculated, with due allowance for improving grade or enlarged capacity in some cases and for declining grade in the case of mines nearing the end of their lives. In the cases of Canada, the rest of the British Empire, the United States, and Russia—where scattered mines are mostly concerned and no special knowledge is claimed—the trend of the last four or five years has been assumed to continue:

(In millions of pounds.)

	Transvaal.	*Canada.*	*Rest of Empire.*	*British Empire.*	*United States.*	*Russia.*	*Elsewhere.*	*World.*
1929	44·3	8·1	7·2	59·6	9·1	5·0	9·8	83·5
1930	43·6	8·4	7·0	59·0	8·9	5·2	10·0	83·1
1931	43·0	8·7	6·8	58·5	8·7	5·4	10·0	82·6
1932	44·6	9·0	6·6	60·2	8·5	5·6	10·0	84·3
1933	43·8	9·3	6·4	59·5	8·3	5·8	10·0	83·6
1934	42·9	9·6	6·2	58·7	8·1	6·0	10·0	82·8
1935	41·8	9·9	6·0	57·7	7·9	6·2	10·0	81·8
1936	41·4	10·2	5·8	57·4	7·7	6·4	10·0	81·5
1937	40·3	10·5	5·6	56·4	7·5	6·6	10·0	80·5
1938	38·6	10·8	5·4	54·8	7·3	6·8	10·0	78·9
1939	35·6	11·1	5·2	51·9	7·1	7·0	10·0	76·0
1940	35·5	11·4	5·0	51·9	6·9	7·2	10·0	76·0

According to this calculation the existing rate of output, while not likely to increase, will remain fairly unchanged for the next five years and will then decrease—at first very slowly and then at a greater rate. The probable error to be allowed for in considering these figures naturally increases with time. If the calculation were continued to a later date, it would show about £60 millions in 1945 and £55 millions in 1950, thus indicating a very rapid rate of fall between 1940 and 1945 and a slower one afterwards; but estimates so far removed from to-day are to be regarded as containing a considerable element of conjecture. It is right, however, to point out what the possibilities are on the present outlook.

20. As the Committee is probably more interested in the amount of new gold available as money than in the world's output itself, it is desirable to carry the calculations a step further, with a repetition of the caution as to the estimates after 1940. Accordingly the quinquennial figures contained in Table I are continued by the addition of 1930–49. As regards these twenty years the gold output is that already indicated; and the demand

and the balance added to gold money is not an estimate but merely illustrates the result if these continue to be divided in the *proportions* of 42 per cent. and 58 per cent. which it will be observed were the averages both for 1890–1914 and for 1915–29. The effect on the gold in central banks and treasuries is also shown, it being assumed that they receive the whole of the new gold after the demands of the industrial arts, India, China, and Egypt have been satisfied. The possibility of their also receiving further contributions from gold assumed to still remain in other banks, in circulation, or hoarded, is ignored. They held 65 per cent. of the total stock of gold money at the end of 1914 and now have 90 per cent. of it, so that further supplies from this source are minimized:

(In millions of pounds.)

	World's gold output.	*Total demand apart from money.*		*Balance added to money.*		*Gold in central banks and treasuries.* End of period.	*Gold in central banks and treasuries.* Increase p.a. for period.
			%		%		%
1890–1894	151·0	59·8	39	91·2	61		
1895–1899	252·8	97·1	38	155·7	62		
1900–1904	305·8	131·8	43	174·0	57		
1905–1909	430·7	162·4	38	268·3	62		
1910–1914	469·7	222·9	47	246·8	53	(1,075)	
	1,610·0	674·0	42	936·0	58		
1915–1919	430·2	155·8	36	274·4	64		
1920–1924	359·0	188·3	52	170·7	48		
1925–1929	412·5	168·6	41	243·9	59	(2,100)	
	2,811·7	1,186·7	42	1,625·0	58		
1930–1934	416·0	175·0	42	241·0	58	2,341	2·2
1935–1939	399·0	168·0	42	231·0	58	2,572	2·0
	3,627·7	1,530·7	42	2,097·0	58		
1940–1944	350·0	147·0	42	203·0	58	2,775	1·5
1945–1949	290·0	122·0	42	168·0	58	2,943	1·2
	4,267·7	1,799·7	42	2,468·0	58		

If it were to be assumed that the total demand would persist at the same average *amount* as in the fifteen years to 1929 the figures for the ten years to 1939 would be virtually the same, but those fifteen years represent an abnormal period. Largely as a result of the impoverished conditions of the world outside of the United States, the demand of the industrial arts has been reduced from the 1913 figure of £27 millions by 45 per cent. and it is to be expected that in time there will be a greater demand from this source unless fashions change. The demand of India for gold may possibly be reduced by other forms of investment finding favour. But if the pre-War

increase and amount of total demand are regarded, a very unfavourable view of the prospects of additions to the supply of new money must be taken. Even on the figures of the above tabulation a declining annual rate of increase of the money in central banks and treasuries appears to be in sight, and this starting with a rate of increase which on pre-War experience would be totally insufficient to support the world's economic development with a stable level of prices.

Third Meeting of the Chatham House Study Group on the International Functions of Gold, 26th February, 1930.

GOLD PRODUCTION[1]

By JOSEPH KITCHIN

SIR CHARLES ADDIS, K.C.M.G., in the Chair.

THE CHAIRMAN, SIR CHARLES ADDIS: Before asking Mr. Kitchin to address the meeting, I should like to say a word about the activities of the group. I assume that the most definite contribution we can make to this subject is to inform and to educate public opinion, and I think that an encouraging start has been made in this direction. In the time at our disposal it is not possible to have very long or complete discussions, but a good deal has been done already by means of the written comments which have been invited from those who have not an opportunity of taking part in the discussion, or who have been unable to be present. These contributions are now being made the subject of investigation by a sub-committee. Later on we shall be in a position to decide whether they can be made use of for some more permanent contribution to this subject.

It may also interest the members to know that the idea adumbrated some time ago, that it might be possible to make a bibliography in connexion with this subject, has now been carried out. The bibliography will, I hope, be found useful by members who are continuing their study of this subject.[2]

Another interesting item which has been brought to my notice by the Secretary is that the work of the group is becoming known outside its own particular range. Interest has been evinced in your work by some gentlemen in Germany who have been making inquiries. They feel this problem is of as much importance to them as it is to us. There may be possible extensions of this scheme in which we may get a reflection of French opinion, for example, and of that of other countries.

This is the third meeting in pursuit of our subject, namely, the International Functions of Gold. At the first, addressed by Sir Josiah Stamp, we explored the channels most appropriate for approach to this question; at the second, addressed by Mr. Robertson, we discussed more immediately the purpose we had in view, that is, what we really wanted gold to do; and to-night we have the advantage of

[1] This paper should be read in conjunction with the Memorandum by the same author on p. 47 above.

[2] A selected bibliography will be found on p. 223 below.

the presence of an acknowledged authority upon the subject of the basic material of our inquiry. Mr. Kitchin enjoys an international reputation for his studies in this subject. With his consent I would suggest that to-night, since the subject is statistical and does not readily lend itself to discussion, and as it will take some time to expound, it might be as well to eliminate discussion and spend the time at our disposal in elucidating any points by means of question and answer, although of course, neither Mr. Kitchin nor I desires to eliminate criticism.

I will now ask Mr. Kitchin to be good enough to address the meeting.

Mr. Joseph Kitchin: Until the Rand was discovered in 1886, the world's annual gold output stood at a quarter of its present figure. It must have been patent to every one present that everything of importance, at any rate in regard to size of figures, seems to have come within our generation, in metal production generally, invention, and so on. So it is with gold. Of the £4,412 millions of gold won from the earth since the discovery of America, four hundred and thirty-seven years ago, £2,811 millions, or 63 per cent., has appeared in the last forty years, and no less than £2,356 millions, or 53½ per cent., after 1900. Since that year the average has been £81 millions, which is close to the present rate. To-day the Transvaal is turning out £44,300,000 per annum, or 53 per cent. of the present world's production of £83,500,000, and it is obviously the predominating factor in the situation to-day.

Another very important factor was the application of the cyanide process—first used on the Rand in 1891, at a time when the world's output had reached £25 millions per annum and the addition to gold money £10 millions per annum. Prior to that time the method almost universally used in winning gold from rock was the Californian stamp mill, or some improvement upon it. By means of the cyanide process —a chemical method supplementing the existing physical one—£13 millions were won on the Rand alone in 1912 out of £37 millions, or 35 per cent., and in the world as a whole perhaps £24 millions out of £96 millions, or 25 per cent. Last year the proportion on the Rand was probably £16 millions out of £43 millions, or 27 per cent., and for the world £23 millions out of £83 millions, or 28 per cent. Apart from this supplementary process of gold extraction, the output to-day would be £60 millions instead of £83 millions, and the addition to the stock of gold money possibly half of what it actually is.

Before this great advance in metallurgy, practically only 50 per cent. to 60 per cent. of the contained gold was won from the ores

mined, while afterwards it rose by one-half. To-day the extraction on the Rand averages about 97 per cent., and in the world as a whole 90 per cent. or more. The highest possible extraction has almost been reached, as 100 per cent. is, of course, unattainable and it does not pay to get much nearer perfection.

Not only has cyanide increased the yield per ton of existing producers by about one-half, but through this increase a very large amount of ore which otherwise would not have been treated has been brought into production. Commodity prices were falling all the way from 1873 to 1896, and it is interesting to speculate what would have happened if the Rand had not been discovered. The rise in prices from 1896 to 1913 would certainly have been cut out.

The trebling of the output since 1891 may be said to have been entirely due to the discovery of the Rand and to the use of the cyanide process. The important point to remember is that the cyanide process has raised the efficiency of gold production to its maximum, and that as the output of the world has once been raised 40 per cent. by this means, there is no possibility of a similar experience in future. Nothing appreciable, therefore, is to be expected from improved metallurgy.

The world's gold output reached its height in 1915 with £96,400,000, and it is 15 per cent. below that level to-day. In the meantime the production has ranged between the £68 millions of 1921 (excluding the exceptionally low year 1922) and the £83,500,000 to which it has recovered to-day. It has remained practically stationary for about six years past.

When one surveys the world the prospects are not bright. All countries, except the Transvaal and Canada, showed the highest production between the years 1903 and 1914, centring round 1911. With the Transvaal now claiming 53 per cent. of the total, the United States and Canada follow at a considerable distance as second and third, with about £8 millions to £9 millions, or about 10 per cent. each. No other country contributes as much as 4 per cent. of the total. Apart from the Transvaal, the world's output has fallen from £58 millions in 1915 to £39 millions in 1929, a drop of 33 per cent. The United States since 1915 has fallen from £20,800,000 to £9,100,000, or by 56 per cent., Australia from £10,200,000 to £2,500,000, or by 75 per cent., and Rhodesia from £3,900,000 to £2,400,000, or by 33 per cent., while Canada has increased from £3,900,000 to £8,100,000, or by 108 per cent., and the Transvaal from £38,600,000 to £44,300,000, or by 15 per cent., the rest of the world showing a decline of 10 per cent.

Passing from countries to sources of production, alluvial has

declined from £25 millions around 1855 to 1860 and £12 millions around 1900 to, say, £7 millions to-day, while the production from reefs has dropped from £50 millions around 1915 to £32 millions to-day, a fall of £18 millions, while in the same period the yield from banket has risen from £38 millions to £44 millions, a rise of £6 millions.

The British Empire's share of the production is a highly important one and has been slowly rising for some time, so that it now stands at 71 per cent. As the United States yields 11 per cent., a total of 82 per cent. is claimed by Anglo-Saxondom. The rest of the world gives only £15 millions a year.

In considering the future production, it is important to remember that the method of occurrence of gold is largely unique. Other metals are usually found chemically combined or intermixed with associated metals, and are seldom found native. They are hardly ever found in alluvial or banket, and exist almost entirely in reefs and in limestone or other deposits. By reason of their occurrence and their association with other metals, there is less liability to sudden increase or decrease of output and, in fact, the production of the base metals increases (or rather increased over the period 1880 to 1913) at a comparatively steady rate of 4 to 5½ per cent. per annum compound according to the metal mined, the rates being 5½ per cent. for copper, 4½ per cent. for iron and about 4 per cent. for zinc, lead, and tin. But with gold the position is entirely different. It is mostly won for itself alone; it is almost always found native, that is, chemically free; it is almost entirely found in reefs or lodes—that is, in deposits of igneous origin where cracks have appeared in the earth and have been filled up by quartz—or in the alluvial derived from the disintegration of the reefs and, since 1886 only, in banket or 'pudding stone', which is a sedimentary conglomerate of quartz pebbles. Hence, gold is subject to sudden changes of output owing to alluvial discoveries, whose yield quickly waxes to a maximum and then diminishes, and to such an exceptional circumstance as the discovery of the Rand banket. Banket is not known as a gold carrier anywhere in the world except in South and West Africa; while in West Africa the production never exceeded £1,700,000 in a single year, and is now less than half of that amount.

The maintenance of the gold output is largely dependent upon new discoveries. It will be appreciated that a gold-mining property is a rapidly wasting asset. It is necessary for financial reasons to work out a mine in a comparatively short time, and on the Rand the optimum period aimed at is twenty years, though many of the mines last much longer. The Rand as a whole is already over forty years old.

I propose to say something on the probable future output of gold, and it is advisable first to deal with the criticism that estimates of production may easily be vitiated by new discoveries. In the past, gold discoveries have been separated by long periods of time. The Russian discoveries were made in 1814, then there were the great discoveries of 1848 and 1851, and then a series of discoveries of varying importance from 1886 to 1909. Omitting countries which have never produced more than £5 millions in a single year, we have Russia in 1814, followed by an interval of thirty-four years until the Californian and Australian discoveries in 1848 and 1851. These were followed by another interval of thirty-five years when there were again no finds of any importance. Finally we have the Rand in 1886 and Western Australia in 1890 to 1893, with nothing since except the Mysore district of India, the Yukon district of Canada, Rhodesia and the Porcupine district of Canada between 1889 and 1909, each with outputs at the highest points ranging from £2,500,000 to £5 millions in a single year. Averaging all these occurrences we have four alluvial discoveries, reaching their maximum in four years with £8 millions each, four reef discoveries reaching their maximum in seventeen years with £5 millions each, and one banket discovery which has lasted forty-three years without having reached the top and has so far attained £43,500,000. Thus thirty-six years have so far passed without any discovery of outstanding importance and with nothing in sight except New Guinea, whose output in 1927 and 1928 was £240,000, and the Belgian Congo, which has reached £600,000. Never in history, apart from the Rand, has any new gold country been discovered which has shown more than £9 millions a year at its maximum. (I take the separate states of Australia as separate countries.) Is not this some indication of what one can expect in the future, remembering that the days of new alluvial discoveries (the last was Yukon in 1897) seem to be practically over, while a new banket country has not been discovered for forty-three years? One must apparently depend upon new reef countries, and no reef country in the past has reached more than £9 millions in a year.

Past estimates of the Rand's later production have been much too low. I find from ten estimates made between 1913 and 1926 that the output for 1929 was estimated at figures ranging from £22 millions to £40 millions, averaging £30 millions, while it was actually £43,500,000. Of course these estimates come nearer to the truth the nearer they approach the actual year, but on the average these estimates were below the actual by as much as 4 per cent. per annum, reckoned from the interval between the year in which the estimate was made and the

year to which it applied. It should, however, be pointed out that all these estimates were made upon a basis which gave a minimum rather than a true figure. They were mostly made upon calculations of the lives of the mines, and the assumption that the existing rate of production of each mine would remain unchanged until the end of its life, or at any rate would not increase, so that all estimates of the kind, except so far as they provide for new producers, must inevitably show a declining figure each year. In practice, of course, the Rand output has not declined each year, so that there must have been something wrong with the basis taken. With this experience in mind, a new method has been adopted for the present estimate by allowing for favourable factors not taken into consideration before, such as improvement in grade, acquisition of additional ground by existing mines, more generous provision for new producers, and so on, and, in consequence, it is likely to prove to be much nearer to the truth.

This estimate is based upon a detailed examination of the prospects of the individual mines of the Rand, which accounts for 52 per cent. of the present world output, while as regards the rest of the world the trend of the last four or five years has been assumed to continue. The result suggests a total output within £1 million or so of the present rate until 1934 (these figures must only be taken very roughly), followed by a fall to £76 millions by 1940, to £60 millions by 1945, and to £55 millions by 1950—that is, as compared with 1929, a drop of 2 per cent. by 1935, 9 per cent. by 1940, 28 per cent. by 1945, and 34 per cent. by 1950. This estimate must, of course, be assumed to be less reliable as the period dealt with becomes more distant, but (apart from new discoveries for which the estimates made very little allowance) the prospect is that there will be a considerably accelerated fall between 1940 and 1945.

For the purpose of the work of this group, the annual addition to gold money is of more importance than the annual addition to the gold output and it is therefore necessary to go into the matter of consumption, especially so far as that consumption is the result of demand and is not automatic. When new gold is produced and comes into the market, the industrial arts, together with India and to some extent China, lay claim to a large proportion of it, and the balance, from the nature of things, goes automatically to swell the amount of gold money. That is, in practice the manufacturers of money have no say as to what those additions to their stock should be, and no matter whether the balance after the satisfying of demand is large or small, the manufacturers of money have to accept it, whether they will or no.

The greatest demand upon gold until the last ten years has come from the industrial arts of Europe and America, which in the twenty-five years before the War—as shown in Table I[1] which deals with new gold only—more than doubled their consumption. For the five quinquennia starting from 1890 they absorbed £10, £13, £16, £19, and £24 millions a year respectively, and the demand increased fairly steadily at an average rate of 4·3 per cent. per annum. The demand of industry was £4 millions in 1850, £12 millions in 1873, £12,300,000 in 1896, and £27,300,000 in 1913, which shows average advances of 4·8 per cent. per annum compound in the two periods when commodity prices were advancing, and of nothing in the middle period when prices were falling. Further investigation shows that the difference between the rates of changes in commodity prices and the industrial demand were from 2½ per cent. to 3½ per cent. per annum—that is, the industrial consumption added to or withstood the changes in general prices by this order of percentage. I should explain that since 1913 I have had to go by very incomplete figures of the United States Mint to get totals—I have had to fill up the gaps they have left—and according to my figures the annual average of £24 millions per annum in 1910 to 1914 has dropped to £18 millions, £17 millions, and £15 millions in the last three quinquennia.

These later figures for industry have been criticized, mainly because they seem too low. It is known that the United States has increased its 1910 to 1914 average gross demand of £9 millions per annum to £13 millions in the last five years, but its use of old material has increased from 18 per cent. to as much as 45 per cent., with the result that its new gold demand of £7 millions per annum in 1910 to 1914 remains unchanged for the last five years. Of course my figures deal with new gold only, not the gross consumption of gold in industry. The balance of America and Europe on my computations has fallen from £17 millions per annum in 1910 to 1914 to an average of £8 millions in the last five years. It has been doubted if the drop has been so great as 50 per cent., but Great Britain has fallen as much, Germany seems to have reduced its former £4 millions to a tenth of that amount, and the much lower figures now estimated are perhaps understandable in view of the impoverished conditions of Europe, coupled with the fact that more old gold is doubtless being re-used, heavy gold jewellery has given place to lighter articles or has been replaced by platinum, and so on.

On the present figures the United States' proportion of the industrial demand was 20 per cent. in the 'eighties and 30 per cent. for

[1] See Table I.

the ten years before the War, while that proportion is now 45 per cent. or 50 per cent., which is not very surprising in view of its consumption of 45 per cent. of the world's production of iron and steel, 44 per cent. of its copper, 43 per cent. of its tin, 38 per cent. of its lead, and 37 per cent. of its zinc, or a general average of 40 per cent. of these quantity factors.

Of course, if the industrial figures I take are too low the amount remaining for money is reduced.[1] The absorption of India, China, and Egypt is, of course, definitely known from the trade returns, subject to the addition of the production of those countries. In case any one finds a discrepancy in regard to the figures given for India, it may be pointed out that they have regard not only to the varying value of the rupee but take gold at its gold value and not at the commercial prices which were in force between 1919 and 1925. There is one omission in my figures, and that is the amount of gold, estimated at as high a figure as £20 millions, which was illicitly imported into India in 1920 at a time when South African exports were prohibited except under licence and Indian imports were restricted. Gold at the time was circulating in South Africa; the banks had to hand out gold whenever it was demanded, the drain on them being so great that they came to London and bought their sovereigns at twenty-six shillings apiece, or thereabouts.

The Indian demand in the twenty-five years from 1890 averaged by quinquennia £1, £5, £6, £10, and £19 millions per annum, that is, it increased at a far greater rate than the industrial demand, but it was so irregular that it would be misleading to give an average rate. Over the twenty-five years to 1914 India took an amount equal to half the industrial demand, but it was rapidly overtaking it towards the end of the period. In the fifteen years since 1914 it has absorbed as much as industry.

It need hardly be pointed out that India's demand for gold, since it reached notable figures, has been a matter of comparatively recent growth, and is the result of increasing wealth. It represents, however, the result of an age-long habit which, directed at first largely to silver, has in quite recent times turned towards gold without diminishing the demand for silver. The habit was interfered with by the gold import restrictions of 1917 to 1920, but for the past fifteen

[1] Mr. Kitchin has since, as a result of the investigations of the Gold Delegation of the Financial Committee of the League of Nations, contained in its Interim Report (Geneva, 8th September, 1930) revised his figures for industrial demand from 1916 onwards. The new figures total £106 millions, £104 millions, and £87 millions for the three quinquennia to 1929, or £44 millions for the 15 years above the figures of Table I.

years the average demand has been £16 millions per annum. Efforts are being and will be made to induce the inhabitants of India to make better use of their wealth, though it is to be doubted whether these will have any but a very slow effect, and the history of the partial change over from silver to gold, which was not inconsistent with an increased demand for silver, suggests that though, through banking and other facilities, more of India's savings will go into interest-bearing investments, we may nevertheless see a further increase in the demand for gold.

It is probably a mistake to suppose that India takes appreciable amounts of gold for the purpose of hoarding it. Though a certain amount of hoarding takes place—and it is notorious as regards some of the princes—the gold is mainly used as a form of wealth which is turned into jewellery and ornaments, being largely converted into ear-rings, nose-rings, bracelets, and toe-rings, or anything which a woman can place on her body. These are largely used by way of dowry, and it is hard to believe that investment can replace them to any great extent unless there is a radical change in present ideas. The habit of acquiring gold and silver is ingrained. In the older days, when India was ungoverned and unsettled, and the inhabitants had to be constantly prepared to leave their homes at a moment's notice to escape their enemies, it was advisable for them to have their wealth, as far as possible, in portable form, and it was therefore put into such shape as would be capable of being borne by women. I believe it is a Hindu custom or law that no Hindu wife can be left more by her husband than she can carry on her body.

Taking all forms of demand together (the industrial arts, India, China, and Egypt) we find that it increased 5·1 per cent. per annum between 1850 and 1873, 1·1 per cent. per annum between 1873 and 1896, and 5·6 per cent. per annum between 1896 and 1913; that is, broadly speaking, it increased all the time but with a due relation to the trend of commodity prices. The difference between the change in commodity prices and in this demand for the three periods was 3·6 per cent., 3·5 per cent., and 3·7 per cent. respectively, in favour of the latter. In the fifteen years since 1914 the demand, averaged over five-year periods, has been fairly steady around £34 millions per annum, which is also the average rate for the previous fifteen years.

Having dealt with the demand, we now come to gold money, which increases by the balance of new gold left over. My computation of the stock of gold money, which is set out in Table I, does not represent a physical count made year by year, but is built up by adding all the new gold that is not taken by the industrial arts, India,

China, and Egypt. It therefore represents the stock for the rest of the world and it gives a continuous and consistent annual record over a long period, and for that reason I suggest it will be found useful. My figures naturally can be tested by the physical counts of others, which, however, must always be subject to doubt owing to the amount of money in circulation being incapable of being counted and being therefore largely a matter of guess-work. My figures are 8 per cent. *above* those of Suess in 1890 and 7 per cent. *below* those of the *Wall Street Journal* in 1894, while from 1898 to 1913 the average difference, as compared with the estimates of the *Wall Street Journal* and the United States Mint, was only 1½ per cent. After the time of the outbreak of War my figures are appreciably above those of physical counts, for the reason that the latter are obviously incomplete, but in recent years they agree within 2 per cent. with the fairly well-known statistics of *Wirtschaft und Statistik.* I have made my own physical count as at the end of last year, which shows £2,155 millions in central banks and treasuries and £129 millions in other banks (in which I include the amount the United States Treasury persistently gives as in circulation), and if one allows for £52 millions as being partly still in circulation but mainly hoarded, the agreement, with my figure of £2,336 millions, is complete—perhaps too complete to be satisfactory.

As the annual addition to money is a difference figure arrived at by comparing the total demand with the gold output while the output is not steady, there is, of course, danger that the addition to money may be subjected to a squeeze unless the demand and the gold output wax and wane together. They do so to some extent, but not altogether. After the Californian and Australian discoveries the output in the 'fifties was £26 millions a year, of which gold money secured £20 millions, but over the period 1870 to 1889, with the gold output reduced to £22 millions, the average annual addition to money was reduced to £8 millions, the average for the six years to 1884 in fact being less than £5 millions per annum. The stock of gold money has doubled within the last twenty-five years, and during that time the annual addition has fluctuated between £12 millions and £68 millions, and, although there are wide differences, the average over any part of the last twenty-five years ranges around £48 millions.

Professor Cassel has shown that between 1850 and 1910, when commodity prices were at the same level, the total stock of gold—by which he means the total of gold produced, and not merely gold money—increased at the rate of 3 per cent. per annum, and he therefore assumes that, on pre-War conditions, an annual gold production

equal to 3 per cent. compound on the total stock of gold was necessary to support the world's rate of economic development. Be it noted that he does not say that the rate of development was 3 per cent., but that an addition of 3 per cent. to the stock of gold was necessary in order to support it with a stable level of prices, no matter what the rate of development itself might have been. I think one can test the correspondence between money and prices much better by comparing prices, not with the total stock of gold, but with the stock of gold money. Working on this stock as computed by me on the basis already mentioned, it is found that the average increase in the stock of gold money from 1850 to 1910 statistically determined was 3·1 per cent. per annum. This is not merely at the beginning but throughout the range. Thus it is held that on the basis of 1850 to 1910 an increase of 3·1 per cent. per annum compound reckoned on the total stock of gold money was required to support the world's economic development as experienced in that period, and with a stable level of prices. If we plot the curve of commodity prices and compare this with the gold money line representing the ratio between the actual stock of gold money and that stock as it would be if it increased at the regular rate of 3·1 per cent. per annum, one finds a remarkable correspondence all along the line if one allows for trade cycle fluctuations. Prices leave the gold money line most at 1873 and 1896, which, of course, were the years of highest and lowest prices of the whole sixty years. The fit is much closer than that secured by Professor Cassel's original method, and a graph showing the two lines is very convincing.

The increase in gold money was above 3·1 per cent. per annum from 1848 to 1861 and commodity prices rose from 1850 to 1864 or 1873. Then the increase in gold money fell below 3·1 per cent. until 1893 and commodity prices fell until 1896. The increase was then above 3·1 per cent. to 1918 and commodity prices rose until 1920; and the increase has been below 3·1 per cent. since, while commodity prices have fallen to date. Similar changes are found in the bank rate and many other money factors. Even quantity factors are also affected to the extent that the rate of progress becomes somewhat retarded when the rate of increase in gold money is reduced.

Since 1913 the average rate of increase in the stock of gold money has been 2·5 per cent. per annum, and as this is 0·6 per cent. below the rate of 3·1 per cent. supposed to be required, on pre-War experience, to keep prices stable, wholesale prices at the end of 1929 should have been at 90 per cent. of the 1913 level.

Fundamental changes, however, have taken place in the distribution of gold money as a result of the War. In the sixteen years from

the end of 1913 gold in central banks and treasuries has increased from £972 millions to £2,155 millions, or by £1,183 millions. During this time £1,292 millions of new gold was won from the earth, of which £535 millions was used to satisfy demand, leaving £757 millions to be added to gold money, all of which it can be assumed went into the central banks and treasuries. The balance of £426 millions which flowed into the central banks came mainly from gold in circulation before the War, which is reckoned to have been round about £480 millions. At the end of 1913 central banks and treasuries held 62 per cent. of the total stock of gold money, while at the end of 1929 they held as much as 92 per cent. In sixteen years it rose from 62 per cent. to 92 per cent., suggesting an analogy to the effects of the cyanide process of recovery of gold, although, of course, there is no connexion between the two.

It is evident, therefore, that monetary conditions have vitally changed and that one must have regard, not to the total stock of gold money, but to that part of it which has been collected into central banks and treasuries. The increase in gold so centralized between the end of 1913 and the end of 1929 averaged 5·1 per cent. per annum compound. If the 3·1 per cent. rate of 1850 to 1910 still holds good, it means, as applied to centralized gold, 5·0 per cent. as at the end of 1913 falling to 3·4 per cent. as at the end of 1929, and the present difference between 3·4 per cent. and the average increase of 5·1 per cent. since 1913 would indicate a price level of 131 at the end of 1929 on the basis of 100 for 1913. The actual level for December, 1929, was 129 in this country, 132 in the United States, 126 in the five leading countries, and perhaps 132 the world over. One could not, of course, apply this test to the period 1914 to 1920, when conditions were abnormal, and it cannot be said that they have reached normality yet. Further, I do not want to suggest that this increase rate can be used as a measuring rod for prices without considerable qualification.

I should like finally to draw your attention to the table on page 54 of my memorandum, which embodies the estimates of gold production for the next twenty years already referred to and gives the balance added to money if that addition continues to represent 58 per cent. of a declining output. The latter, I am careful to say, is not an estimate. It merely shows what the result would be if the past percentage applied in future. It has been objected that if the gold output falls off as assumed, there is no reason for supposing that the total demand would fall proportionately, so that the balance to be added to money would be less than shown. One would expect the demand to decline as a result of declining output, because that would mean lower

commodity prices, but I should expect an appreciable lag and, if the objection is good, you will note that it only intensifies the conclusions to be drawn from these figures. I have not allowed for any further drain of old gold money into central banks and treasuries, as on my figures they already hold all but £180 millions, and a large proportion of this must remain in other banks, while gold in circulation is not entirely a matter of the past. But if £50 millions of this £180 millions still uncentralized were to come in during the current five years, the centralized gold would be raised from £2,155 millions at the end of 1929 to £2,448 millions at the end of 1934, and the rate of increase for the five years would be raised from 2·2 per cent. to 2·6 per cent. I want, however, to give a general rather than an exact picture of what I believe is coming, and that is that, on 1850 to 1910 experience, an increase in the gold in central banks and treasuries of somewhere between 3·1 per cent. and 3·4 per cent. is required to keep prices stable if the world's rate of development is not slowed down, and I cannot conceive of anything like this rate of increase being attained. The picture drawn is that commodity prices to date have been supported by a concentration of gold in central banks and treasuries which has increased from 62 per cent. of the total stock in 1913 to 92 per cent. to-day—a process which obviously is not capable of being repeated and must be nearly at its end—and that a fall in the trend of wholesale commodity prices for an indefinite period (moderate at first but increasing with time) is in prospect. This long-drawn-out decline in prices can be compared with that which covered the period from 1873 to 1896—when gold money was increasing at the average rate of 1½ per cent. per annum, which is the average rate I visualize for the coming twenty years and, so far as I can see, it can only be avoided or mitigated by increased economy in the use of gold.

Discussion.

Mr. E. L. Franklin: In connexion with the annual addition to the stock of gold money, Mr. Kitchin estimates that the average over any part of the last twenty-five years ranges around £48 millions. There are three different ways of calculating this figure—I had reckoned it at about £70 millions—and I should like to ask one or two questions. In considering gold imports into India, and remembering the fact that in 1929 £6 millions of this gold was in the form of sovereigns, that amount of sovereigns should be deducted, because one does not know what the sovereigns are being used for. Also taking the £10 millions or £12 millions of old gold that has been re-melted and realized, is it considered that that gold went back into the arts, or was

it sold to the banks in various places, or what proportion of it was sold? That makes a considerable difference. I would also like to ask whether the fact that the Indian demand shows a tendency at the present time to diminish has been taken into account, because the total amount of gold sent into India, excluding sovereigns, was last year only £7,500,000. Also there is the fact that during the first part of this year the demand for India is very much smaller; and I would like to know whether that has been taken into account.

Mr. Kitchin: In this statement I deal only with new gold; and that being so I think the figures stand. In the case of India, I take into account sovereigns imported. I take it they are largely used for exactly the same purpose as bullion. I also, of course, show a decline in the Indian demand. That is shown clearly in the second column of Table I, which shows that in 1925 it was £28 millions, in the previous year it was even £52 millions, while it declined to £14 millions last year.

Mr. D. H. Robertson: Would Mr. Kitchin enlighten us a little further on a matter on which he has been kind enough to give me some private instruction? All of us who follow these things have taken Mr. Kitchin's figures without question, if for no other reason because we knew of no others, until last year when an American gentleman, Professor Edie of Chicago, irrupted into the field with some figures which differed rather seriously from Mr. Kitchin's figures. Perhaps I might recapitulate the difference. Professor Edie estimated[1] that at the end of 1913 the monetary stock of gold was £1,832 millions, as contrasted with Mr. Kitchin's £1,579 millions, that is to say, it was about £250 millions greater; whereas, near the end of 1928 he estimated the monetary stock of gold at £2,205 millions, which was some £70 millions less than Mr. Kitchin estimated. If those two figures were right, it would follow that the rate of growth of the world's monetary gold—gold available as money—would have been considerably less during the interval than we have assumed from Mr. Kitchin's figures. It would work out that Mr. Kitchin would have shown, during the fifteen years of the War period, an annual rate of growth of the world's monetary stock of £47 millions; whereas Professor Edie showed an annual rate of growth of only £25 millions. Professor Edie was working on physical counts, and, after allowing for the absorption of India, put whatever he could not otherwise

[1] Edie: *Capital, the Money Market, and Gold.* 1929. (Chicago University Press.) Chapters iv–vi.

account for on the consumption of industry. Therefore, he had to make an enormous estimate of no less than an average of £35 millions a year during that fifteen-year period for the consumption of industry. Mr. Kitchin convinced me in private conversation that that was likely to be much too big, and his own estimate of something like £15 millions a year during the last fifteen years is much more likely to be right, on the probabilities of the case. But I am still left in doubt how to interpret Professor Edie's figures, because the estimate of the amount of monetary gold in the world in 1913 did appear to be rather plausible. It differs largely from Mr. Kitchin's; and part of the difference consisted of the figure of an additional £80 millions of hoarded gold in France, for which he gave a reference to some pronouncement of the Bank of France, made, I think, last year. The Bank of France announced that the rate at which hoarded gold was coming to the Bank showed them that there must have been much more monetary gold in 1913 in France than anybody had ever supposed; and that the real figure in 1913 must have been no less than £80 millions more than anybody had ever imagined. What is right for the past does not matter at all, except that in order to make sense of Professor Edie's figures one would have to suppose that the consumption for industry was considerably greater than Mr. Kitchin has estimated. If that were so, it would mean that the position, which, as Mr. Kitchin has shown us, is sufficiently serious, would be still more serious for the future. I do not know if it is fair to ask Mr. Kitchin to tell us in particular about that point as to the £80 millions, and whether there is anything to be said for Professor Edie's estimate of the gold stocks of 1913 having been considerably bigger than previously supposed.

Mr. Kitchin: In my estimate I took as the amount of gold circulating in France at the end of 1913 the figure of £160 millions, which is the United States Mint estimate, based, I think, upon de Foville's estimate of many years before. The Bank of France, it is true, has somewhat recently estimated[1] that there was £250 millions in circulation in France at the end of 1913. The Bank of France in its reports for many years gave the amount of gold which was brought out of circulation, and I think that the total comes up to something like £130 millions. All the figures that I have been able to put together have totalled up to that. It is also a remarkable fact that some £25 millions of that came out in 1926 and 1928, after an interval of many years; so that a good deal of that hoarded gold was still being kept back by the public. If you assume that to-day there is a sum of

[1] Edie, *op. cit.*, p. 25.

£20 millions hoarded in France, to a large extent you justify that old figure of £160 millions. I think that the figure of £250 millions estimated by the Bank of France as the amount of gold in circulation in France before the War is an exaggerated one on all the evidence we have so far.[1] I ought to point out that all this criticism of Professor Edie's with regard to the amount of gold in the world at the beginning and end of the period is largely beside the point as regards my figures. My figures are all based upon the amount of new gold won, the amount of that gold used as we believe it was used, and the assumption that the balance was added to money. As Mr. Robertson has pointed out, if Professor Edie's figures were correct, you would have to assume an average consumption for industrial uses for Europe and America only of £35 millions or £37 millions a year, which is more than twice my figure. I cannot agree with that figure at all. I have had a letter from Professor Edie—I put before him my point of view—and he says that he is profoundly dissatisfied both with his own figures and with mine.

MR. R. G. HAWTREY: If I might pursue that point, it is a little difficult to explain why there has been such a heavy fall in the new industrial demand in recent years. The figures show that the pre-War demand of £120 millions in five years has fallen fairly steadily to £75 millions during the last five years. There has been a trade depression, of course, but, on the other hand, the purchasing power of gold has fallen. It seems to me that the possible explanation of that falling off lies in the fact that the debris of the gold in circulation before the War could very often be more profitably disposed of to jewellers in recent years than to the central banks. If £130 millions of gold has been collected from circulation in France since 1914, and if £30 millions of that came in under the legislation of 1926, clearly there was a large number of people with gold coins at their disposal with no immediate prospect of realizing them except by selling them to jewellers. That is not peculiar to France. There were other countries which had considerable gold coin circulation, and many which had some gold coin circulation before the War. I remember seeing collections of gold and silver coins in 1920 or 1921 in Hungary, for example. It is probable that there has been a fairly steady leakage from the monetary to the non-monetary side which is not disclosed in the statistics of industrial consumption, and which would have

[1] The total has since been estimated at £210 millions in the [*First*] *Interim Report of the Gold Delegation of the Financial Committee of the League of Nations*, p. 114. (Geneva, 8th September, 1930.)

the effect of making the result rather closer to Professor Edie's conclusion, and rather more pessimistic. Mr. Kitchin says he has checked his figures of total monetary gold against the various estimates that have been made from time to time. You can get a fairly close estimate, I think, by choosing the years in which you take the gold in the central banks and treasuries, particularly if you take the Federal Reserve Board's estimate for 1917 when the greater part of the gold in circulation in Europe had been collected into the central banks, and before the gold in Russia had been dissipated—while it was still in the Imperial Bank. You find that the total increase in monetary gold during the period 1917 to 1929 was a little over £600 millions. Against that you have to set all the gold that was in active circulation in 1917. I am not prepared to give the exact statistical analysis or results of that; but it struck me that that particular year 1917 was a useful one to take for the purposes of corroborating estimates, because you get the bulk of the previously circulating gold coin concentrated in the central banks and treasuries in that year. It was before the chaos that appeared in 1918 and subsequent years after the Russian Revolution and after the collapse of Central Europe. But the main point I got up to make was concerning this question of the leakage of gold, in the form of gold coins in hoards, into industrial use in recent years, and to raise the question whether we may not expect a rather substantial increase in industrial demand in the coming years, especially if the trade depression and the rising value of gold are stopped. Assuming that we want to stabilize gold, and assuming that we secure our object, part of the causes which would have diminished the total industrial demand would have been modified. If on top of it we find that the industrial demand in recent years has been supplied from stock in the form of hoarded coin, that seems to me to make a serious difference to the situation.

Mr. Kitchin: That all enforces my argument, does it not?

Mr. Hawtrey: Yes.

Mr. Kitchin: I have before me the figures of industrial gold used in France. They are remarkably high. In 1922, £11 millions; in 1923, £10 millions; in 1924, £9 millions; then £6 millions; then £6 millions; then £5 millions. It is falling all the time; but they are very heavy figures. I have taken throughout that period £2 millions to £3 millions of new gold, not on a very scientific basis, but mainly by looking at

what they are supposed to have used in new gold before the War, which was £3,500,000. These figures for industrial consumption I know are open to criticism, especially as I have had to fill in the gaps in the United States Mint compilations. I may say that the United States Mint is now giving fairly full figures, but of gross gold used. The figure I want to get is new gold—net gold; and the difficulty mainly arises in reducing the one to the other.

MR. HAWTREY: Do I understand you to take as *a priori* a probable assumption that the industrial demand had diminished since the War?

MR. KITCHIN: No.

MR. HAWTREY: You say that the new gold before the War was £3,500,000, and you assume it falling to £2 millions?

MR. KITCHIN: On those figures of £9 millions to £11 millions of 1922 and 1924, I have reduced it to £3 millions; and on the £5 millions to £6 millions in the subsequent three years I have reduced it to £2 millions because the total has come down in the same proportion. Before the War it was given as £3,500,000.

MR. HAWTREY: Are there any statistics on the same basis of gross use of gold before the War?

MR. KITCHIN: Yes, I have not got them here, but in the United States before the War, if you take three years, the gross use of gold of the United States in 1911 was £8,400,000 and the net £6,800,000. In the following year £7,400,000 out of £9,100,000 was new gold. In 1913 £7,700,000 out of £9,400,000 was new gold. When you come to recent years (and we have figures for this as the United States collects pretty definite figures with regard to its own country) you have £7,500,000 out of £13,500,000 in 1925; £9 millions out of £15 millions in 1926; £7 millions out of £12 millions in 1927; and £6,500,000 out of £12 millions in 1928. That is to say, 45 per cent. of the recent figures represents old gold; and only 55 per cent. of the use in industry represents new gold. We have actual figures for new gold only for the United States and this country, and they total now £8 millions a year. I suppose Mr. Franklin would agree that the English figures are not much more than guesses?

MR. FRANKLIN: They are only guesses.

MR. KITCHIN: The English figures which are put in doubt are £1,700,000 net and £2,300,000 gross. But I have had to fill in a great many blanks. The only thing is that these figures seem to check with my physical count, always provided that the gold in circulation in France in 1913 was not £250 millions but £160 millions.

MR. N. CRUMP: If it is right to assume—though personally I have grave doubts—that an annual increase of 3 per cent. in the world's monetary gold stocks is needed to maintain world prices at a stable level, then I agree that the difference between this 'normal' rate of increase and the actual rate since 1913 corresponds very closely with the actual rise in world prices which has occurred since that date. But I cannot help feeling that that proves too much, and I was rather relieved to hear Mr. Kitchin imply as much to-night. The first question I have to put is this: assuming the decline of the past few months is a short term movement, does it not give us a little in hand, to set off against the deflationary effects of the retardation in the future increase in the world's monetary gold stock which Mr. Kitchin outlined to us? The second, and far more important, question is this. I do not think there is any doubt at all that the distribution of the world's monetary stocks of gold to-day is extraordinarily uneven. France and the United States are obvious examples. Assuming that a more equitable distribution of the world's gold stocks takes place in the future during the period which Mr. Kitchin has forecast to us, will not that ease the position to the extent of giving us something more in hand? If so, we may have something to offset against the future diminution in the world's gold production which, unless corrected in the ways I suggest, and possibly in other ways, will, as I agree with Mr. Kitchin, lead to a downward trend in world prices.

MR. KITCHIN: I think it is undoubtedly true that the correction of the present mal-distribution of gold is one of the means of economizing gold, and would certainly help the position. Although I made the 3·1 per cent. factor agree with prices in December, 1929, I put in a word of caution when I gave it. If you were to apply that in detail, you would find very considerable differences. It does not apply absolutely throughout.

MR. CRUMP: It proves too much.

MR. KITCHIN: It proves too much. I was only using that over a period of sixteen years to show that there was some sort of rough

agreement. You find no agreement at all up to about 1925. From 1925 onwards, for about four years, there has been a fair amount of agreement; but I would not press that point at all.

Mr. Hawtrey: I want to pursue that point of the 3·1 per cent. The calculation that has been made, first by Professor Cassel and afterwards by Mr. Kitchin, as to the actual need for absorption of gold, is based on a period in both cases dating from somewhere about 1850, and ending somewhere about 1910. The period chosen seems to me to be such that it cannot possibly throw any light upon the need for monetary gold at all. In 1850 or thereabouts, there was one gold standard country in the world, namely, Great Britain. There was one bi-metallic country in which gold predominated, namely, the United States. All Europe, apart from England, and I think the independent town of Bremen, used either silver or else the bi-metallic standard in which silver predominated. Practically the entire currency for continental Europe, like the entire currency of Asia, was supplied without any gold at all—not literally without gold, because ever since the Middle Ages, it had been the custom to use a certain amount of gold coin in Europe as a merchants' monetary medium. But the standard was silver, both in countries like Germany, Austria-Hungary, Russia, Norway, Sweden, Denmark, and Holland, where silver was the standard and where there was mono-metallism, and also in France, Belgium, and countries which were ostensibly bi-metallic. Some of the countries I have mentioned were usually on a paper standard; but that does not affect my point, because the reserves were in silver. The period, therefore, in which the absorption of gold was averaging 3·1 per cent. of the monetary supply was one in which practically the whole commercially advanced world was transformed from a silver standard to a gold standard. Therefore, any demand for gold was something that had no relation whatever to the normal monetary growth at all. It is also the case that the same period saw a great development of credit instruments and credit organization, which would tend to economize gold to an enormous extent. What it amounts to is that of that period, on account of the last reason, you cannot say quite definitely that the absorption of gold was far above the normal during those sixty years; but you can say that if it was anywhere near normal it was purely fortuitous; that the effect of the quite abnormal demand for gold due to the putting of these countries on the gold standard was offset by the equally abnormal development of credit substitutes. For these reasons, it seems to me that the 3·1 per cent. is actually based on no evidence

whatever. I do not mean to say for a moment that 3·1 per cent. may not be a fair estimate here and now of the amount of gold that will be needed on suitable assumptions; but in order to discover what it is, you have to make assumptions first of all of the natural growth of note circulation, or any other factor that the gold reserve has to be related to; and, secondly, you have to make assumptions as to what the future relations of the note issue to the gold reserve are going to be.

Nobody, so far as I know, has ever made any calculation of what the growth of the note issue is likely to be. Generally the impression one gets is that the growth of the note issue in present conditions is rather slow, except in those countries which have just been through inflation, where the note issue at the end of the inflation was abnormally low, as it was in France. But in this country and in the United States, the growth of the note issue has been slow. It does not follow that in every case the growth of the gold reserve has to be in proportion to the note issue. These seem to be considerations which one ought to have regard to in calculating the future monetary needs of gold. I hope that my scepticism as to the 3·1 per cent. will not be confused in any way with lukewarmness with regard to the primary necessity of economizing gold, or perhaps I should not exactly say of economizing gold, but of providing machinery either for economizing gold or absorbing gold, as may be necessary. What we are aiming at is to prevent not merely a world scarcity of gold, but also a world redundancy of gold. For that purpose you want to be prepared both to economize gold, if necessary, and also to absorb gold if necessary. These measures are just as necessary if you prove that the normal absorption of gold is only ½ per cent. per annum as if you prove that it is 4 per cent. per annum. In either case you have to be prepared to shield the monetary systems of the world from being disturbed owing to quite fortuitous changes in the supply of gold.

Mr. E. M. H. Lloyd: We have often said, as though it stands to reason, that the United States and France have an excess of gold. But I want to understand what our standard is. We talk about the necessity for economizing gold. There is one thing in particular which I have come across recently, as estimated by Mr. Carl Snyder, namely, that the amount of gold in the United States represents about 5 per cent. or 6 per cent. of the total bank liabilities. He says it is not much greater, but something less than 1 per cent. greater than the proportion of gold to total bank liabilities in this country. It would be very unfortunate if that figure of 5 per cent. became a sort of dogma.

Perhaps it is unfortunate that it should have been made at all; but I want to know, if that is the case, if there is any rhyme or reason for saying that the United States have necessarily got too much gold, and if so, what criterion is to be applied? Then let me take France. Though it is true that the Bank of France has increased her holding by about 70 per cent. in the last two years, the figures given only show an increase of about 10 per cent. in the holding of the Bank of France compared with what it was before the War. If in addition to the holding of the Bank of France you had in France about £160 millions or £250 millions, whichever figure you like—

MR. HAWTREY: The holding of the Bank of France has increased 100 per cent. since before the War, has it not?

MR. LLOYD: I took this figure from the League of Nations Statistical Year Book as to the central banks and treasuries. It was £304 millions before the War and £336 millions now.

MR. KITCHIN: My figure is £304 millions before the War; but that includes £160 millions in circulation and £4 millions in other banks besides the amount in the Bank of France of £140 millions. It is now, assuming they have still hoarded £20 millions, £356 millions, or £52 millions more than 1913. But if you accept the Bank of France's recent estimate of £250 millions as the amount of gold in circulation before the War, instead of being £52 millions more than in 1913, it would be £38 millions less.

MR. LLOYD: So that the increase in France actually on the whole is not so exaggerated as the figures of the recent movement would suggest. Then there is a further point which I want to raise, if I may touch on the distribution of gold as well as the production of gold. There appears to be an enormous amount of gold which cannot be related to the working of the gold standard. You have £100 millions in Spain, and you had recently £100 millions in the Argentine Republic. You have £40 millions in Australia and about £30 millions in Canada and other places. So far as the working of the gold standard is concerned, certainly so far as Spain and the Argentine Republic are concerned, that gold has no relation to the working of the gold standard. That reinforces the doubts which Mr. Kitchin has expressed as to whether the increase in new gold between 1913 and after the War had any relation to prices. One other figure which I got out recently is certainly interesting, namely, that the whole of the gold holdings

of the British Empire is rather less than the Bank of France, which is surprising, considering the fact that more than 50 per cent. of the gold produced each year is produced in the British Empire.

MR. KITCHIN: 71 per cent.

MR. LLOYD: South Africa itself, which produces all this gold, has fallen from £11 millions at the end of 1924 to £8,500,000 in November, 1929. I do not know what the explanation of that is.

MR. OWEN FLEMING: My impression, speaking from memory, is that the French gold holdings are in excess of the combined gold holdings of Great Britain and Germany. Could Mr. Kitchin give us details on this point?

MR. KITCHIN: I have the figures here. They are £336 millions in France; £147 millions in Great Britain; and £115 millions in Germany. That would leave France with £74 millions more gold than Great Britain and Germany put together.

I do not know if I might just deal with Mr. Hawtrey's point? He threw doubt upon the 3·1 per cent. I said that the 3·1 per cent. could not be accepted without very great qualification. Supposing during that period from 1850 to 1910 there was a continuous economizing in the use of gold, if that were the state of facts the argument would hold good. I do not suggest it was, but at any rate there is a very close correspondence between what I call the gold money line and the trend of prices during that time. I have given Mr. Hawtrey the graph which illustrates that, but it illustrates this also. If you do not take the period of 1850 to 1910, but take the period from 1880 to 1910, or any other period you like you get more or less this position.

MR. HAWTREY: But they are all subject to the same objection. The passing on to the gold standard was spread over the whole period.

MR. KITCHIN: The world was getting more and more on to the gold standard; but if you take the last thirty years it was fairly general.

MR. HAWTREY: The passing on to the gold standard began with the bi-metallic countries between 1850 and 1870. It went on in Germany, Scandinavia and Holland in the 'seventies; then it went on to other countries in the 'eighties, and to other countries again in

the 'nineties, and there is no one year in which you can avoid that circumstance.

MR. ROBERTSON: Was it not mostly in the 'eighties?

MR. HAWTREY: No; a great deal of it went on up to 1900. The accumulation of gold in Russia and Austria was quite exceptional then.

MR. KITCHIN: It may be fortuitous; but at any rate the facts seem to support the argument.

MR. HAWTREY: What your table shows is that the net result of all the different forces at work was to cancel each other out. As the factors against which the higher per cent. increase of gold cancels out are completely unknown, you are left with no result at all. You have two or three enormous forces at work, such as credit substitutes, growth of production, and change, whatever it was, in the proportion of people's resources in the form of money and credit. All those factors are completely unknown, and are pulling in different directions. All you know is that there is a relative correspondence of the price level with the gold output. All it shows is that all these forces other than the gold output did more or less cancel out; but you are left completely in the dark about what it was that you are cancelling gold out against. You do not know what the situation would be if you eliminated this particular circumstance of the general passage on to the gold standard. That would have been a radical change in the circumstances. You do not know how far conditions either as to economic expansion, or as to credit substitutes, or as to the habits of the people in regard to the amount of money and bank credits they hold in the future, will correspond to the past; so that you are left completely in the dark, so far as statistical guidance is concerned.

MR. G. D. ROKELING: With regard to Mr. Kitchin's estimates of the percentage increase in the stock of monetary gold—namely 11·9 per cent. in the last quinquennium and 8·9 per cent. in the quinquennium before that, and so on—those figures are obviously based on assumptions to some extent, for instance, as to the amount of gold used for industrial purposes. I should like to know whether Mr. Kitchin has considered the question of the possible margin of error, whether, for instance, the 11·9 per cent. might be as low as 10 per cent., or whether it might be as high as 14 per cent.? If Mr. Kitchin could

give us some idea as to the possible error on either side, I think it would be an advantage.

MR. H. V. BERRY: Is Mr. Kitchin satisfied that the gold mining industry is as efficient as it could possibly be? Are there any difficulties of labour or capital, or anything of that nature, which have prevented the production from being as great as otherwise it would be, and which would prevent any improvement in it?

MR. KITCHIN: I have not worked out what an error in the quantity of industrial gold would amount to. I give the figures which I believe in; but I would rather give a general picture. I think if you were to change that percentage from 11·9 per cent. to 10 per cent, you would not change the general picture to any great extent. You could change it very much more than that without changing the general picture. I think that is true.

Then as to the question Mr. Berry put concerning the efficiency of gold production, as regards recovery, as I have suggested already, we have reached the limit. On the Rand, if you go through the reports you will see that one company claims 95 per cent., another claims 96 per cent., and another claims 97 per cent.; and another even claims 100 per cent., which is impossible. But we have reached the limit there. You could stimulate gold production if costs were to go down a good deal; but that is not present-day experience. Costs were going down for a period before the War, and then they went up with a burst. They have since come nearly back to pre-War level, and they are now rising somewhat. The Rand, to which these remarks on costs refer, supplies more than half the world's output.

Selection of Comments on the Proceedings.

MR. S. D. WALEY: Mr. Kitchin's main conclusion is—on 1850 to 1910 experience, an increase in the gold in central banks and treasuries of somewhere between 3·1 per cent. and 3·4 per cent. is required to keep prices stable, if the world's rate of development is not slowed down.

Mr. Hawtrey has shown reasons for profoundly mistrusting the figure given for 1850 to 1910 experience; but what really matters is the 1930 to 1940 forecast, and conditions are so entirely different that nineteenth-century experience, even if a reliable figure existed, would be little help to twentieth-century prophecy. Among other changes one may note the disappearance of gold coin, increased use of cheques,

changed rate in growth of population, shift of wealth from Europe to America and Oceania. No doubt every fifty years is 'exceptional', but 1850–1900, which saw the growth of industrial United States and the general adoption of the gold standard, is undoubtedly so.

The years 1925–9 might give a better foundation for a forecast. The figures published in *The Times* on 7th April, 1930 (in the City Notes), illustrate the general increase of production and the general fall in prices, but also show that the two changes are not closely related in the case of individual commodities.

No doubt *some* increase in the purchasing medium would have avoided as much of the fall in prices as is due to monetary causes and *some* further increase would have counteracted the average fall in prices due to increased production. But to decide *what* increase in the purchasing medium would have produced these results requires careful study, and to give an arbitrary figure of 3·1 per cent. to 3·4 per cent. for the annual supply of gold required to produce this increase is a confession of failure.

The problem has in practice to be tackled from the other end. Central banking policy should be to increase or decrease credit from month to month so as to keep the average price level as steady as possible. If international co-operation can be secured, the increase or decrease of credit need have no exact relation to the quantity of gold in central banks and treasuries.

Mr. D. T. Jack: The real problem concerns the probable adequacy of future gold supplies to maintain stable prices. 'Adequacy' in this connexion is a somewhat loose description, particularly in view of the arbitrariness of the world's gold money reserves. As was pointed out by Mr. Keynes before the Royal Commission on Indian Currency and Finance: 'We could support a much higher price level with the existing reserves, and, equally, we could also have a much lower price level without materially affecting them.'[1] The usual references to the rate of gold increase from 1850 to 1910 do not seem to be wholly satisfactory as a basis upon which to base future prospects, partly for reasons which Mr. Hawtrey indicated, but partly also for others. (1) There is the more or less general abolition of gold from ordinary domestic circulation. Provided that remains a permanent arrangement it should tend to ease the pressure. Mr. Kitchin mentions[2] that already the great bulk of monetary gold is concentrated in central

[1] Great Britain: *Report of the Royal Commission on Indian Currency and Finance. Evidence*, vol. v, p. 145.

[2] See p. 67 above.

banks and treasuries, and that little further change in that direction can be expected. But I would suggest that the real significance of this change may lie to some extent in the greater possibilities of economies being effected than if gold circulations were retained. (2) Some account might also be taken of the probable rates of increase of population and of wealth. (3) Then again there is the point as to the abnormal distribution of the world's monetary gold stocks. Of course the question of redistribution will depend upon American willingness to allow such a process to take place; and in view of the common view that the United States would not be willing to permit the process to occur, perhaps it might be mentioned that in 1924 a United States Government Report declared that 'while the United States has more than half the total monetary gold of the world . . . a return to the normal functioning of the gold standard will make necessary a redistribution of its disproportionately large gold reserves'.[1] And Dr. Sprague told the Royal Commission on Indian Currency and Finance that 'it certainly renders the world a little less dependent upon the vagaries of gold production that there is this large store of gold in the United States available in one way or another to support prices throughout the world at something like present levels'.[2] Of course, the willingness of the United States to participate in such a redistribution would not in itself be any guarantee that the effects of a possible gold shortage would be prevented. The ultimate result would still depend upon the reserve policies of other central banks, and in particular upon their willingness to abandon the practice of accumulating unnecessarily large gold reserves. In the subsequent discussion it may be necessary to estimate the extent to which relief from this quarter might be provided.

The various considerations mentioned would suggest that as regards the future a rate of increase of less than 3 per cent. per annum in the world's monetary gold stocks would suffice to keep prices stable.

In that connexion it might be mentioned that the late Professor Lehfeldt took the view that as a result of post-War changes 'an increase of 2 per cent. in the monetary stock of gold should serve to keep its value constant'.[3] It should be pointed out, however, that even this lower ratio could not be maintained unless gold production increased from its present total of £83½ millions to about £100 millions by 1940. Therefore, if Mr. Kitchin's anticipations are valid, a serious situation is still in prospect though the degree of seriousness may not

[1] United States: Senate. *Commission of Gold and Silver Enquiry*. 1925.

[2] *Op. cit.. Evidence*, vol. v, p. 296.

[3] Lehfeldt: *Restoration of the World's Currencies*. 1923. p. 139.

be so great. This conclusion merely points to the urgency of the task of economizing in the monetary use of gold.

Mr. J. H. Penson: It will probably be agreed that the correspondence between the annual additions to the stock of monetary gold and the price level during the past seventy and eighty years, is largely fortuitous. As Mr. Hawtrey says, you have several great forces at work. Mr. Kitchin showed, however, that during certain periods, in particular between 1861 and 1896, the annual additions to the stock of gold money were low as compared with the annual average additions in the years both before and after this period. The fact that during the same time so many countries were passing on to the gold standard means that we have two important factors working in the *same* direction.

It is clear that in order to achieve the relative price stability that we had before the War, there must have been very important countervailing factors at work. The uneven distribution of gold in the world to-day has arisen largely during and since the War, and was a factor modifying the influence of the higher gold output during this period.

Mr. Kitchin's paper and the subsequent discussion go to show that, though the annual increase in the stock of monetary gold will be an important factor in the future, there are other factors of great importance governing the stability of gold prices.

Fourth Meeting of the Chatham House Study Group on the International Functions of Gold, 9th April, 1930.

HOW TO ECONOMIZE GOLD

By SIR OTTO NIEMEYER, G.B.E., K.C.B.

SIR BASIL BLACKETT, K.C.B., K.C.S.I., in the Chair.

THE CHAIRMAN: There is no need to introduce Sir Otto Niemeyer to this audience, but I will just remind the group that the meetings that we have held hitherto have gradually led up to the discussion that we are to have to-night on the question of how to economize gold. I have now much pleasure in calling upon Sir Otto Niemeyer.

SIR OTTO NIEMEYER: I want for the purposes of this discussion to assume, on the basis of the results of our previous meetings, that economy in gold is needed. Secondly, I make the assumption derived from Mr. Kitchin's figures, that whereas the annual production of gold is rather more likely to decrease than increase, the monetary demand for gold owing to the increase in world population and the growing needs of credit is, on the whole, likely to increase.

I start by taking Mr. Kitchin's figure of the world gold production in 1929 as a basis of the production of new gold. Mr. Kitchin arrived at a figure for 1929 of £84 millions, of which what he called industrial gold accounted for £29 millions—that was India, China, and industry proper—and what was left for monetary needs amounted to a balance of about £54 millions.

I start on those data and will consider on those assumptions what methods have been suggested for economizing gold. I will also to some extent discuss those methods in a provocative spirit for the sake of discussion. The first thing that strikes one about these figures, and certainly it came rather as a surprise to me, was the relatively very large amount of that annual total which went to non-monetary purposes. £29 millions out of £84 millions is something approximate to 35 per cent. I think Mr. Kitchin gave us some reasons for thinking that if anything that figure was rather low and is more likely perhaps to increase than to decrease. For one thing, his figures for India and China contain a comparatively low figure for China based on recent experience and a comparatively low figure for India. The Indian figure was as low as £14 millions, whereas not very long ago pre-War India was taking something like an average of £20 millions, and in 1924 as much as £52 millions. Therefore the Indian figures, on which one cannot dogmatize as to whether economies are possible or not,

are, if anything, likely to increase rather than decrease. Turning to the real industrial consumption out of production, that is, £15 millions, I feel doubtful whether one can see much basis for economy there. It is very difficult to say. In itself the total of £15 millions for 1929 is a good deal below the average according to Mr. Kitchin's figure. In pre-War years the average was well over £20 millions. I think it was suggested to us last time that the present comparatively low figure might be due to a specially large amount of remelting of old jewellery consequent on the War. My difficulty with the industrial figure is that one knows so comparatively little of how it is made up. I wish Mr. Kitchin or somebody else with a statistical turn of mind could analyse for us a little of what that £15 millions really is: how much is dentistry—how much is wedding rings—how much is ordinary jewellery, and how much is gold plate. If one could get at that figure even perhaps for Great Britain and the United States, one would have some idea whether economy in the industrial use of gold is worth pursuing or not. One could envisage that there might come a change of taste in wedding rings. People might take to using some other metal than gold. There might come a time when gold ornaments might be thought vulgar. People might adopt some other metal or possibly somebody might invent an untarnishable silver. But in the absence of the analysis of what the industrial gold really is used for I do not feel that it is possible to look for very much economy there. It is at best very scattered, and obviously the more people there are concerned the more difficult it is to make any appeal for economy effective. I am afraid, therefore, that economy in the industrial use of gold is not likely to offer us a very fruitful field, and that we shall have to accept that £15 millions or £20 millions as irreducible.

One is left with the monetary £54 millions. What chances can we see of economy in that direction? That is really the centre of our problem. The first method that suggests itself to the mind is perhaps more the maintenance of an existing economy than the creation of a new one. I mean the maintenance of what is now a fairly general practice, that gold coins should not be used for internal circulation. That is an economy which is one of the good things which have come out of the War. I do not think that, but for the War, it would have been possible to induce the peoples of the world to give up gold coin and to substitute for it paper notes. I think Mr. Kitchin estimated that that economy had added over £400 millions to the gold reserves of the credit institutions. Certainly, in this country alone it is commonly thought that we have added something like £75 millions—a very considerable figure. I mention that as an economy, though

you may say it is not an economy because it is achieved, because I do not feel that that economy is as secure as I should like to see it. One cannot forget that in 1925, when we passed the Gold Standard Act, there were many people, even in banking circles, who were very reluctant to see gold coin pass out of circulation and were quite anxious to contemplate that some day, though perhaps not immediately, we should once more have golden sovereigns jingling in our pockets.

There are one or two other things which are rather suggestive in this connection. Following the British experience in 1925, in 1926 India discussed having gold coinage in circulation. More recently still, France has often discussed it and has taken certain steps in the direction of getting gold in circulation. Finally, the Swiss scheme of 1929 implied, not immediately, but at a remote date, the return of gold coin to circulation in Switzerland. One is always meeting with this question in the smaller countries. I can recall two countries in the Near East—'Iraq and Persia—which have recently discussed having gold coinage in circulation. So that there is always a continual drip of people who are inclining that way. I am not sure that it is not still felt to be a sign of inferiority not to have gold coins—almost ungentlemanly. You have princes who wish to see their effigy on a new gold coin and you have numismatists who would like to have new specimens. Many people talk of gold coin circulation as if it were, to use their phrase, the second line of defence in an emergency. That is a doctrine which always makes me see red. I believe it to be untrue. Although it is true that in this country during the War we were able to collect gold, quite obviously that was not the case in France, where gold has recently been collected from circulation; I have always felt that to have gold coinage in circulation in a time of emergency was just as likely to lead to the hoarding of that gold as to its being suddenly grabbed back by the central institutions. I therefore feel very strongly that it is very important to establish a general view that a gold coin in internal circulation is not a sign of good form or of advanced economic conditions, but just the opposite—it is the sign of almost mediaeval decadence. I rather regret that the central banks, or some of them, have not been able to give some lead to the weaker brethren by indicating their desire, perhaps their expectation, that as a general rule gold coin should not pass into circulation. I believe, if there had been such a pronouncement, it would have had a considerable effect on the numerous countries who in a matter like this follow the big countries and follow fashion.

It has always seemed to me that if you have a central bank which is responsible for the paper currency internally, and which in practice,

I do not say in law, can make notes internally convertible, the old idea of the need for gold coin, or really for any coin which has a real value to enable a small private note-issuing bank to meet its creditors across the counter, is really quite out of date. I do not understand how you can have a serious internal run on a central bank, which, either in law or in practice, must have the government behind it in time of emergency. Therefore my first remedy, or if you like my first plan of economy, is to enforce, and perhaps to proclaim, the views of many of us, that it is not a desirable thing to contemplate gold coin in internal circulation in a normal country.

Now I pass to the second idea which has been suggested, and that is, a reduction in the customary margin kept by credit institutions over and above their legal minimum of cover. If one looks haphazard at the central banks of the world, you will find in every case that, whatever are their legal requirements of cover, they in fact keep a margin above that legal minimum, and sometimes a considerable margin. Supposing you have a legal minimum of somewhere about 33 per cent., the normal thing is to get about 43 per cent. of cover. But there are many countries where the cover is much larger. If you take them merely haphazard—I am treating the gold cover and the foreign exchange cover as identical for the moment—you have Belgium, with a legal minimum of 40 per cent., having an actual cover of about 70 per cent. You have France with a legal cover of 35 per cent. and an actual cover of 50 per cent.; Holland with 40 per cent. legal minimum and an actual cover of 55 per cent. Italy is about the same. Spain has a legal cover of 60 per cent. and an actual cover of 71 per cent. America's minimum is somewhere between 35 and 40 per cent., and her actual cover about 70 per cent. You even get cases, like Ecuador, which have a legal cover of 50 per cent. and an actual cover of 75 per cent., though in this particular case that might not in actual cash represent a very large sum. I ought to have mentioned the case of Australia, which has a legal cover of 25 per cent. and an actual cover of 42 per cent., not counting the £24,500,000 which was in private banks, and which has recently been exported. Even if one were to agree that there might be a reason for having a cover at some points above the legal minimum, there is a very considerable margin; and it may be that there is in that margin a scope for economies which could, if it were necessary, be drawn upon.

That leads me to observation on the position which arises in many countries, and in agricultural countries in particular, from seasonal fluctuations of currency. For instance, in Poland or Southern Europe or India, and perhaps in this country for other reasons, in

the time of autumn pressure there is a considerable variation in the demand for currency. It seems to me very important that the public should get accustomed to such seasonal variations, and expect to see their margin of cover going up and down. I am sure there is a feeling in many parts of the world that if at any moment the cover goes down, something awful is going to happen. That is very prominent in many of the smaller countries of Europe. Anything which could induce the public to realize that a variation in the margin of cover following seasonal needs was a perfectly normal thing, and you ought to expect to see it, might offer a considerable alleviation of our difficulties. It is perhaps natural that the usual feeling should be the contrary after the currency disturbances which we have had. Public opinion in a great many cases is extraordinarily susceptible to the minor fluctuations of cover, not unnaturally, because they have lived through periods of heavy depreciation and heavy devaluation. But I do feel that it is time that particularly the leading countries should learn to expect, and not to be alarmed at, such variations. Possibly some of them ought to go as far as I think India did under Sir Basil Blackett's guidance, and allow themselves a special increase in currency, just to meet the seasonal demand. That is one of the aspects of the question of excessively high conventional cover over the legal cover, because the tendency with banks is to maintain a conventional cover sufficient to meet their maximum need and not their average need. Of course that entails, in countries of seasonal demand, a rather considerable hoarding up in many months of the year of cover which they do not need.

That leads me on to a third and more difficult question, that of the actual legal ratios themselves. Obviously this depends a bit on the last question, because if the legal ratio is reduced, that would naturally affect the resulting margin over that legal ratio. I have never been very clear myself, and I rather hope somebody will enlighten me to-night, as to the basis of the normal legal proportion, the normal 33 per cent., 35 per cent., or 40 per cent. of cover as the case may be. I do not quite know why we have adopted that figure; I have a sort of suspicion that it derives from experience of a rather remote past, the experience of small private bank-note issues, where what bankers had in mind was the need of cashing notes in coin over the counter. I seem to remember the figure of 33 per cent. as a figure of metallic cover in connexion with private issues of that kind, but I have always rather wondered where it came from in the case of the central banks. I should imagine that the conventional figure of 33 per cent. is in some countries too low and in other countries very

likely too high. It is perhaps largely a matter of fashion; but, of course, so long as it is a fashion, that makes it very difficult for any individual to change. I know some people who think that if the worst came to the worst about gold, the central banks might very easily reduce their legal ratios from 33 per cent. to some other figure. That is true as a possibility. But I admit that to me it has always seemed much more difficult, as a practical operation, than some of my friends think. Let us envisage what would happen. Supposing it were thought safe to substitute 25 per cent. for 33 per cent. as the normal kind of cover, that would mean altering some fifty bank statutes: or, if you leave out the smaller countries and say it is enough to take the leaders, then it would be some ten bank statutes. That means, in the case practically of every country, getting the consent of the shareholders of the note-issuing banks in question to an alteration of the bank statutes. More than that, I think it means, almost without exception, legislation by legislative bodies who are not particularly well informed as a rule, or particularly sympathetic on currency questions. Moreover, it would mean doing that in a great many countries which in fairly recent times have had shocks to their currency, and where currency legislation is naturally regarded as dangerous, and where the arguments for prudence and doing nothing may seem very strong. Not only would you have to obtain such legislation firstly by the bank and then by the legislature in a large number of countries, but you would have to obtain that legislation more or less simultaneously. I must confess that seems to me a very difficult proposition. Can one really contemplate Congress in America readily legislating on that subject, or even the House of Commons in England? What central bank is going to be the first to say: 'The pace is too hot'? Is not it going to be afraid that by saying that it is exposing its credit and the credit of its currency? It seems to me that the difficulties of dealing by legislation with all these various countries, or even with the important ones, in order to reduce ratios are enormous. Therefore I must confess I always have thought that possible solution is a very difficult one. It may be that the Bank for International Settlements will provide a place for hatching such a universal conspiracy as I think would be necessary; but, even then, political difficulties would remain. I feel, therefore, that that particular method, the method of altering ratios, if one were driven to it, and if one thought it were sound in itself, does present very great practical difficulties.

Now I come to another method of economy which is sometimes mentioned; and here I speak with more than usual trepidation

because I see Sir Charles Addis looking at me. It is sometimes said: Is not all this matter greatly eased by certain provisions in the statutes of the Bank for International Settlements, more particularly Article 24? That seems to me to be a misapprehension. As I understand Article 24, which is the Article which says that the Bank for International Settlements may earmark the gold—I am leaving out of the picture what might be behind it—it does no more than economize the cost of transporting gold. That is an important thing; but it does not in itself economize the use of gold. I am afraid, therefore, that I do not derive from the mere wording of Article 24 as much comfort as some people do.

Then I come to another way of economizing, and that is in the complex of ideas which is generally known as the gold exchange standard; that is to say, the arrangement by which part of what used to be pure gold becomes reserves in gold currencies in other countries. There I feel that the prospects are rather dubious. It seems to me that the gold exchange standard has rather fallen from the high estate which it had in Genoa in 1921, and which more or less inspired the various central bank statutes fathered by the League, such as Austria, Hungary, and Greece. Later statutes of the remodelled central banks have rather tended to depart from that particular doctrine, and import at any rate a minimum holding of gold within the total proportion. That was true of the German statutes and the Belgian statutes. It was true of Poland and it was true, I think, of Roumania. In all those cases, in contradistinction to the earlier League statutes, instead of its being entirely optional on the bank whether it held gold or foreign exchange, it was bound to hold a certain proportion of gold. Further, many eminent bankers have referred to the gold exchange standard as a transitory measure which had its uses at certain times, but which could hardly be regarded as a permanent state of blessedness. It may or may not be unfortunate that this should be the position, but we have to recognize that that is the position at the present moment. I think it would be true to say that whereas in 1921 the gold exchange standard at Genoa was regarded as the new gospel, many people now are not at all sure whether it is a gospel at all. Incidentally I think it may have been a misfortune that that particular gospel was invented at a conference which only represented Europe, and not all Europe at that—at which, for instance, the United States and South America were not represented. Also, perhaps unavoidably, I think, it was unfortunate that that doctrine was put over the Conference mainly by the British delegation. It would be true, I think, to say that, though other

people acquiesced in it, they never really discussed it intimately, and they never really entered into its full implications. It has come for good or evil to be regarded increasingly as a British fad, and in some quarters on the Continent even as a nefarious plan to put Europe under the financial heel of London; in other quarters as a cry of despair from a Great Britain harassed by unemployment, which other countries not in that position need not heed. To that I think perhaps one ought to add the more technical criticisms which have been made of the gold exchange standard, more particularly in the United States—the argument that the gold exchange standard is necessarily inflation, because it means that the same gold functions twice over, once in the country part of whose reserve it is, and once in the country where it is held, where it enters into the monetary structure of that country, so that on the same actual gold two bases of credit are erected.

To get a view of the whole situation one ought perhaps to add that there are many countries in Europe—certainly many of the smaller countries—where the idea of keeping their gold reserve in an equivalent of gold outside their own country is very unattractive. They feel that, while gold at home is any way gold at home, gold or its equivalent abroad may be held up in the case of war, and may be confiscated as enemy property at the gold centre. It cannot be exhibited locally to the peasants who are doubtful about the currency, and so on. If you have your gold at home, as in the Spandau Tower, you can go to war with it. That sounds rather wild; but it is at the back of many people's minds in Europe. On the other hand, the attraction of an interest-earning asset abroad instead of unproductive gold at home is not so great as it was some years ago, because the minor countries are recovering economically and have become prouder. Therefore, though I feel that the gold exchange standard is a most important opportunity of economy, in many ways perhaps the most practical of all on a large scale, I do think there are many difficulties about it which we ought to face. The doctrine perhaps needs re-study and developing.

Surely it is necessary to say, if we believe in the gold exchange standard, that the gold exchange standard is emphatically not protective colouring for Great Britain. It is needed because all the world (even those who six months ago thought they were prosperous and even those who to-day think they are impervious to contagion) will suffer from a gold famine. War ought perhaps to be regarded as an exceptional incident, and the arguments from the needs of war are poor arguments for a policy which, in the longer periods of peace, may be exceedingly harmful. One cannot deny, I think, that the

gold exchange standard is in a certain sense inflatory. In fact one may say that is its import in this sense, that from the mere fact that it produces economy of gold it must in a certain sense be inflatory. But I wonder whether that really need cause us very much anxiety provided certain conditions of its use are observed: if, for instance, the reserves of a gold exchange country were kept in the central bank of the country where they are held and not, as sometimes has been the case in the past, in the commercial banks of that country, by which means the central bank of the receiving country would retain the oversight and control, which it might lose if the deposits were in the hands of local commercial banks; if, secondly, such a recipient central bank, knowing that it had this special liability as a gold centre, managed its own market in the light of that knowledge—which might possibly mean some kind of reinsurance with a third central bank—so that the risks would be spread.

I have a sort of feeling that the possibilities of the gold exchange standard have not been fully explored, certainly not in practice, and perhaps not in theory; and that the whole doctrine, if it is a true doctrine, wants restating from a rather different angle. Perhaps the Bank for International Settlements might render a real service in dealing with that problem. An essential preliminary, if we are going to trust to a gold exchange standard to provide economies in gold, must be to rehabilitate it, and cease to regard it almost as a pariah.

I cannot think, beyond those methods which I have mentioned, of any promising means of economizing gold. I have a certain fear that we are perhaps a little too complaisant about the ease of putting these various methods into practice. I am not sure that we do not perhaps under-rate the half-heartedness of some people, and even the opposition of others. Also possibly we under-rate to some extent the technical difficulties. I do not want to be too gloomy; but I am brought back, when I think of what seem to be the difficulties, to the hope that the Bank for International Settlements may provide a platform, not so much from anything that is actually provided in its statutes, but from the general ideas which lie behind for producing to some extent a change of ideas, and still more a uniformity of ideas in various countries on this subject, which I believe at present is very lacking. I think the differences of view arising out of past controversies between various countries on this very subject of the economy of gold are pretty serious, and perhaps more far-reaching than many of us would like to believe.

Just in conclusion I would like to say this. I wonder whether there are not really two problems in the economy of gold, and whether the

argument does not get confused by failing to distinguish between them. It seems to me that there is the immediate problem, and there is the less immediate problem. There is a temporary immediate problem which seems to me one of ill distribution. I think, on looking at Mr. Kitchin's figures—I do not know whether he would agree—I should feel inclined to say at the present moment that there is not an actual shortage of gold in the world, but there is a bad adjustment of the supply which exists. Therefore, it seems to me the temporary gold problem is the adjustment of the existing supply. Over and above that, there is the second problem which is looming in front of us, but which will not be upon us for five or six years, namely, if the production of gold goes down, and we get a real world shortage. That is rather a more long-distance problem than the first one. I think, although the first problem leads on to the second, there is something to be said, for the purposes of discussion, for trying to keep those two aspects separate; because, in arguing about gold, one so often finds that one is really thinking of the second problem, and the man one is arguing against is thinking of the first problem, with the result that the arguments do not click. Therefore, I would like to suggest that it is perhaps worth thinking whether some of the arguments applying to the first, and what I call the temporary problem, apply also to the second problem.

Addendum: Inserted 24th April, 1930.

Since the meeting of 9th April, I have received certain information which throws some light on the £15 millions of gold used in industry.

The United States Mint Report[1] gives a figure of £23 millions, but this probably includes gold not derived from new production.

If their proportions are scaled down to Mr. Kitchin's £15 millions derived from new gold, the distribution is as follows:

United States	£8·0 millions	
France	3·0 ,,	(? Lyons trade)
Great Britain	1·5 ,,	
Switzerland	1·0 ,,	(watches)
Germany	0·5 ,,	
Austria	0·2 ,,	
Canada	0·2 ,,	
Others	0·6 ,,	
	£15·0 millions.	

[1] United States: *Annual Report of the Director of the Mint for the fiscal year ending June 1930*, p. 251.

The above figure for Great Britain of £1·5 is rather less than the £2 millions, which is the figure indicated by actual physical count here.

This £2 millions is made up of £1·5 to £1·8 jewellery; £0·2 dentistry and pottery; other needs (photography, signal lenses, gold thread for textiles, gold for instruments) are insignificant, perhaps not more than £50,000 a year.

The above indicates that jewellery is the only item of any importance among the industrial uses.

Discussion.

Sir Henry Strakosch: There is one point that deserves mention, namely, that ever since the Federal Reserve Act came into force, the habit has developed of requiring central banks to secure by gold or gold assets not merely notes but also sight liabilities. Why, I have never been able to discover. That habit, because it has been initiated by the United States, has got hold of the people in Europe to such an extent that whenever a new central bank statute had to be drafted by the League of Nations, the representatives of the respective countries insisted upon gold cover being provided against sight liabilities. It is a way of economizing to get rid of that habit, because it absorbs a very large amount of the gold. Take the United States and France, for instance, and many other countries. Sir Otto Niemeyer mentioned the habit of hiding reserves. I think it is a most vicious habit. I happen to know one or two cases where the published reserves are given as something in the neighbourhood of 45 per cent. or 50 per cent., whereas, in actual fact, they have hidden away under other assets reserves which bring the total up to a matter of 70 per cent. As regards the gold exchange standard, the objection is frequently raised that it is inflationary. But if we want to economize gold, we have to use the smaller base of gold to build a bigger structure of credit, which some people may call inflation, but which is not inflation in truth, so long as the level of prices remains stable. It would be necessary to educate the public at large to the fact that having less gold need not necessarily mean inflation. The difficulty which Sir Otto mentioned is that some of the countries dislike having their reserves in the form of balances or assets in a foreign country because they may be seized in times of war. I may say that in League of Nations circles the question has been discussed privately, so far only with a view to presently taking action in the direction of making such balance held for central banks as monetary cover inviolate in the case of war.

As Sir Otto very rightly says, the question of the economy of gold has to be divided into two parts. One is to do away with mal-distribution. So far as mal-distribution is concerned, that is a matter that, to a large extent, could and should be achieved by close co-operation among the central banks. I went into figures only the other day. During 1929, there became available something like £65 or £70 millions of fresh gold, whereas the United States and France in that year absorbed no less than £110 millions sterling of gold. As every one knows, any gold which goes into the Federal Reserve system, and any gold which has gone into the Bank of France since the end of 1928, is no longer monetary gold. It has ceased to function as monetary gold because of the abundance of gold reserves which they have. They do not build a structure of credit on it. The effect of the gold movements in the last year was not only to withhold from the rest of the gold standard world their share of the new production, but also to pull out of their reserves something in the neighbourhood of £35 to £40 millions. That alone is sufficient to explain the catastrophic fall of commodity prices which took place towards the end of 1929.

MR. OWEN FLEMING: On the last occasion I ventured to ask Mr. Kitchin if I should be correct in assuming that the French gold reserves held by central banks and government exceeded the combined bank reserves of Great Britain and Germany. He was good enough to quote the figures which showed this to be the case. Indeed it is possible to go further and to state that at the present date, the French gold reserves exceed the combined reserves of Great Britain, Germany, Holland, and Belgium. Does not that rather raise the point that this question of gold should be considered in relation not so much to the banking needs of the country as to the commercial needs of the whole community? Either France has a far greater quantity of gold than is necessary for her purposes or the other Powers have far less gold. I should very much like to get the French defence of this position, and also to ask prominent Frenchmen whether this accumulation of gold in Paris really is to the benefit of France. I can conceive that by the raising of the level of gold in France and the consequent diminution of the level in the surrounding countries, the trade of Western Europe as a whole is impeded and, therefore, the trade of France with those neighbouring countries is also impeded. It might be to the French interest to allow this French gold to be distributed a little more equally among the surrounding countries.

Mr. C. H. Kisch: There is one point I might mention at the beginning. Sir Otto asked for an explanation as to what is the origin of the 33 to 40 per cent. ratios. I believe they derive from the institution, namely the Bank of England, with which he himself is connected. There are two links apparently in the chain. The ratios come directly through the Charter of the Imperial Bank of Germany, the Reichsbank Charter made by Bismarck in 1870, which introduced a ratio for notes. The Reichsbank took the idea from the practice of the Bank of England, which before the 1844 Act used to maintain a cash ratio of about 33 per cent. As regards post-1844 Act practice, the Bank's cash proportion used to fluctuate round 40 per cent. on either side, but a decline towards 30 per cent. meant that a rise in bank rate was to be expected. At that time the note issue had only a small fiduciary element in it. So that if you take the Bank of England's ratio for notes and deposit liabilities after the passing of the 1844 Act, you would find that its practice was substantially in accord with many central banking charters to-day, but before the 1844 Act the position was rather different. Mr. John Palmer, Governor of the Bank of England before the Bank Act, stated in evidence before a House of Commons Committee that the Bank's general practice was to have 33½ per cent. bullion against their circulation of notes and deposits, whether government or private, i.e. all liabilities payable on demand. When the Reichsbank Charter was made in the Bismarckian period, they adopted a standard of that sort. I believe that after that it spread to the more modern charters, viz. the Federal Reserve Act. Sir Henry Strakosch can doubtless tell you, because he has had such a large part in imposing this deposit and note liability on a number of other countries, and it has incidentally been copied by the Central American Republics and Chile. There is a reasonable ground for treating deposit liabilities at call in the same way as notes, since a person can draw his deposit and can ask for gold exchange or gold according to the practice of the country just as he can demand encashment of his notes. I have made mention of this as bearing on what I believe to be the historical basis.

Turning to another branch of the question—one of the important considerations which people who have to manage currency have to concern themselves with in settling the amount of gold or gold exchange that they require to safeguard their standards is the possible strain of the period of adjustment. We have seen various countries in the last twelve months getting anxious about the adequacy of their gold holdings, going off the gold standard in two

or three cases, and in other cases adopting devices which practically amount to the same thing.

There seem to be two points arising in that connexion. The first relates to the position of the central banks in their domestic market. It is very necessary that they should have the whole-hearted support of the commercial banks. If the central banks have that, they will feel increased confidence themselves in limiting the amount of gold or gold exchange which is required. I am not so much thinking of the Bank of England or the Reichsbank, which also seems to have a strong command over its market. But there are other countries where the central bank has not had this whole-hearted co-operation of the commercial banks. In those cases it may feel that, by alterations of the conventions regarding ratios of advances to cash and so on, its policy may be countered by the commercial banks, in which case it naturally feels that it must have stronger assets with which to tide over periods of adjustment. It may not only have to effect deflation, but it may at the same time have to counter inflation produced by some other authority which it does not control. I have always thought that one of the most important things is to get the commercial banks in all countries where a central bank is situated to recognize its hegemony, and not only to support it but take the lead habitually from it.

That is on the national side. When we come to the international side we have had the experience of two heavy falls in prices in the last ten years. When those things happen the weaker bodies begin to wonder whether their reserves are strong enough. They say: If we are going to have these great falls in price we must see that our coffers are well filled, so that we can tide over the period while we are bringing our price level into line with the outside price level. Thus they tend to increase their holdings. Here the fundamental question is whether a co-operative central banking policy is going to minimize those dangers in the future; clearly, if a co-operative central banking policy is going to free the countries of the world from these drastic changes in the price level, central banks will feel more confident in running their businesses on less inflated gold holdings, including gold exchange holdings. One is aware of the position in various countries. Sir Otto has mentioned the case of Australia, which in the last few months has exported gold to the amount of £24½ millions. I am also aware of other countries which in the last few years have lost gold exchange to a comparable extent. If the world is not going to be protected from the kind of price cataclysm one has lately had, the danger is that not only will central banks tend to hold excessive amounts of gold, but it will be a question whether they will hold

enough to maintain themselves on the gold standard. It is there that international action by the central banks is above all necessary.

Leaving that, and turning to the gold exchange standard, I entirely agree with what Sir Otto said about the importance of educating people up to the excellences of the gold exchange standard. Quite recently I had a letter from an authority on the Continent whose country is actually working the gold exchange standard. He sent me the proofs of a book he was writing. To my surprise, in the course of that book he referred to a country which was on the gold exchange standard (that is to say, where one could not get gold bullion but convertible foreign currency over the counter of the central bank) as having 'a forced currency'. I called attention to the fact that it was not a forced currency, because a person who had notes could get gold exchange under the legal obligations which were in force in that country. But the fact that a person of repute should make such a blunder shows that there is great need for education all round. I met another case not long ago of a person who maintained that the gold exchange standard was not a gold standard. The phrase 'gold standard' grew up before the War as meaning a standard in which gold coin was obtainable. Then we have now got the gold bullion standard. That is an esoteric term which is not understood by the public, who are apt to regard anything other than a gold circulation as not being a pukka gold standard. Though there are obvious distinctions between the two countries, Great Britain and the United States, which have to support the currency structures of Europe and America, and the rest of the world, it would possibly be a good lead to the weaker brethren if when the two leading gold centres hold foreign exchange it should be always shown separately. I welcomed the improvements in the Bank of England's return made a few months ago, when the note issues were amalgamated. But if it is a case that the Bank of England holds foreign exchange—and I do not ask for secrets to be disclosed—it would help the cause of holding foreign exchange if the leading central banks should show it, because that would indicate that they also believed in holding gold exchange and they did not only rely on their gold holding.

As regards the possibility of change in bank ratios, that hinges on to what I said before in regard to the question of whether people can feel confident that they are not going to have violent disturbances in the price levels, which are a particular hardship in the countries producing raw materials. I think if one could know that that risk could be avoided by international action, either promoted through Geneva or in some other way, the problem of reducing legal

ratios might not prove insuperable. If the central banks, possibly through the Bank for International Settlements, could be got together on that question, something could perhaps be done; otherwise the position looks rather black. Sir Otto's picture covered the whole ground, but he gave me the impression that he was rather pessimistic about what is going to happen. I only offer these few suggestions as a contribution in the hope that the outlook may possibly not be so black as he has painted it.

Mr. R. G. Hawtrey: There is one misconception which is very prevalent, and that is that there is at the present moment a scarcity of gold. In fact, there is a redundancy of gold just now in England, in the United States, in France, and in Germany, and if there is not a redundancy everywhere else, I think there is a sufficiency. The surplus reserves in these countries are very large. Therefore, the problem of economizing gold has reference not to the immediate present, but to some time in the future. It depends mainly on psychological and other incidents in certain countries, which result in those countries not being contented with the redundant gold they have. There are two striking examples of that—one is the United States and the other is France. The underlying reason, so far as it is not pure psychology and mere prejudice, is not altogether dissimilar in the two cases. In the case of the United States it is customary to reckon by what their statutory reserves are. At the present moment they are somewhere about $1,500 millions, and the holding is $3,000 millions. Therefore, there is a surplus of $1,500 millions. But that misrepresents the case as it appears to the American Federal Reserve Banks, because not only are there these statutory conditions as to the proportion of gold to be held, but there are also statutory conditions as to the other cover which may be held against note issue. They can only hold eligible bills. The Federal Reserve Banks are of opinion that the amount of re-discounts outstanding at any one time ought to be quite a moderate total. They regarded the $1,000 millions which were outstanding a year ago as something entirely exceptional. I do not say they would not regard the present $200 millions as somewhat below normal, but still it would be more like what they would regard as normal—they would regard perhaps $400 millions as normal. On top of that, there are $100 to $300 millions of acceptances bought in the market, but the variation in acceptances would be seasonal. Really they take it for granted they can only have a cover to the amount of about $400 or $500 millions in addition to their gold for their note issue. That means that they regard a very great part of the

existing gold reserve as locked up against their note issue. That does not account for the whole surplus, but it accounts for some part of it. After all, if they are going to keep within their legal limitations, they need some surplus. If you have got to hold a proportion of your note issue as legal reserves, then so far as the statutory reserve goes the gold held does not exist for practical purposes. If you establish a statutory reserve against your note issue, you sink the gold which belongs to the statutory reserve in the sea, and it is nothing more than a prohibition on the holding of so much earning assets. So far as the bank is concerned, it does not exist. That is not literally true with the United States, because the Federal Reserve Board has power to suspend the reserve requirements in an emergency, but it is not expected to use that power. That is one of the considerations which apply in the United States.

Now a word about France. The French have been taught, partly by the Anglo-Saxons, that to hold government securities against the note issue is contrary to sound banking. We and the Americans must admit that we do not carry that into practice, but if you refer to the text-books you will find that it is laid down as a rule, and the French have conformed to it. They have no government securities, except to an insignificant amount, against their note issue. What has taken their place? They went on buying dollar bills and sterling bills up to a very large amount, but eventually they became frightened. As Sir Otto has pointed out, there are psychological objections to a gold exchange standard, and people do not like to hold the backing of their note issue entirely in foreign securities. The French raised the total of their funds in foreign securities to thirty-two milliards, or £250 millions. They thought that was too large and so they proceeded to reduce it, but even now it is twenty-five and three-quarter milliards, or over £200 millions. They had then to deal with the gap, which had to be made good in some way. The supply of rediscountable bills in France was quite insignificant in comparison to the amount of backing which was required, and so they had to have gold, as there was nothing else to fill up the gap. That is the real explanation of the case of France. We think it perfectly normal to hold £260 millions, nine-tenths of which are government securities, as backing to our note issue, and that relieves us of difficulty. In the United States they from time to time acquire very large holdings of government securities, running up to $600 or $700 millions sometimes. Thus there are these obstacles in France and the United States to a further economy of gold. But even without any economy of gold there you still have an ample reserve in this country. The reserve in this country

is an operative one. All the others are asleep. The reserves of the continent of Europe do not appear except as an occasional drain upon London. The operative figure, the figure which determines the credit policy of the world, is the reserve in London, and that is gradually growing to excessive dimensions largely owing to the disgorging of the Australian redundant reserves. The time may come, after a year or two of cheap money and considerable inflation of credit in the world, that there will be again a shortage of gold. I take it for granted that the zeal for deflation shown by the central banks of the world in the last few years would in no way prevent them showing an equal zeal for inflation so long as they can inflate within the limits of the gold standard; so that it is perfectly possible, unless something is done to prevent it, that you may get a scarcity of gold arising in the course of the next few years in that way.

I think what is required is the adoption of some system of stabilization which will prevent the inflation of gold, and therefore prevent the circumstances from arising which will cause a scarcity of gold. If once you get a policy of price stabilization brought into full operation, I believe the more distant difficulties that Sir Otto referred to, ten years hence or more, when the falling output of gold is felt, will probably quite easily take care of themselves. I do not think that the prejudice against the gold exchange standard is so strong as Sir Otto thinks. The mere fact that the French are willing to hold £200 millions of foreign assets is evidence that it is not. That is an administrative act, and it involves all the reasons that Sir Otto referred to, such as the risk in case of war, for example. So I think it is quite likely that countries will drift into using foreign exchange to eke out their gold. It is not necessary to have statutory power to reckon foreign exchange as a reserve in order to economize. Suppose we adopted it in this country. At the present moment we have a reserve in the banking department of about £60 millions. Supposing we exchanged £40 millions of that for foreign exchange, dollars, francs, and so on, we should then be in just as strong a reserve position as we are now. The risk of denuding the banking department of its reserves would be no greater than it is now. It is possible to substitute gold exchange to any extent for your *surplus* reserves, leaving your statutory reserves where they belong, at the bottom of the sea; so that the operative part of your reserve can be held in the form of foreign exchange. Moreover, without any legal gold exchange standard the central banks might make a practice of buying and selling foreign exchange on such terms that they will never, in fact, have either to export or to import gold. It will always be more profitable

for a foreign dealer to take exchange instead of gold. I would not say you would never have to buy gold, because there is the fresh output from the mines which has to be absorbed by somebody.

Underlying the whole question is this problem of what standard reserve ought there really to be—what standard of available disposable gold or gold exchange reserve ought a country to hold? I think the answer is a simple one. There is no purpose in holding a larger reserve than the equivalent of the largest currency contraction that public policy will allow the country to undergo. I think that is exemplified in the case of Australia. Australia had very nearly the largest gold reserve per head in the world—not quite the largest, but the same amount per head as France or the United States and a little less than the Argentine Republic. The time came when there was a collapse in world prices, and Australia was faced with the choice of either contracting her currency sufficiently to keep her currency at par or going off the gold standard. It was of no advantage to Australia to have a greater gold reserve than would enable her to contract her currency to the extent she thought desirable. If she did not want to contract her currency beyond that point it was no use holding gold. She suspended the export of gold instead.

As a matter of fact, in the particular case of Australia, they have found a very valuable use for gold in creating sterling to meet sterling liabilities in London. But the general principle remains that it is no use holding a greater gold reserve than will enable you to make the greatest possible contraction in your currency that you will want to make in any emergency. Probably our present available reserve of £60 millions is more than sufficient for that. But there is this to be said. In order to carry that policy out literally it might be necessary absolutely to suspend lending by the central bank in order to make the whole amount of contraction effective. That is the policy, in fact, which was adopted by Dr. Schacht in 1924. He rationed credit so that any loss of gold or exchange when it occurred was fully felt in the contraction of the note issue.

Dr. Paul Einzig: As Sir Otto has rightly pointed out, one of the most obvious ways of economizing gold would be an all-round reduction in margins over and above the legal minimum requirements. I think the Bank for International Settlements, by its mere existence, will contribute to a very great extent towards this end. The main reason why at present every central bank endeavours to keep gold in excess of legal requirements is that they have nobody to fall back upon in case of emergency. Once there is an institution set up which

can supply them with support in the case of emergency, the main reason for keeping a surplus fades away. If the Bank for International Settlements provides a channel between the various central banks, that would be a help towards eliminating the necessity of keeping a surplus for seasonal requirements, because at the time of the year when the central banks in agricultural countries have a temporary influx of foreign currencies and gold, there is a pressure against the central banks of the importing countries. A simple way of compensation would be if the central banks of the agricultural countries were to transfer some of their unwanted surplus to the central banks of the importing countries during the crop season. As a result it would be superfluous for the central banks of importing countries to keep a surplus gold stock to meet seasonal requirements.

Mr. D. Barber: The view has been held in recent years in Great Britain that it would be a good change in our statutory regulations if the Bank of England were in a position to hold more of its reserves against its deposit liabilities instead of locking them up as a reserve against its note liabilities. That is especially true, I should imagine, in the case of a country where bank money, of which reserve against central bank deposit liabilities is, after all, the ultimate reserve, was the principal form of money, and outnumbered greatly the note money in the country. But it does seem to me that even to fix the ratio against deposit liabilities of a central bank is an unscientific way of tackling the problem. What we would like to happen, I take it, is that the gold should be used for the purpose of meeting international movements of currency rather than be used as a direct internal check. Gold held freely as a reserve against the liabilities of a central bank is quite effective in keeping that bank up to the scratch with regard to regulating its internal currency policy in order to maintain the gold standard. If you consider possible international movements of currency, seasonal, periodic, and casual movements, they do not bear any close percentage relationship to the actual volume of currency of all sorts inside a country. Therefore it seems to me a country ought to sit down and consider what are the possible variations in the balance of payments between itself and foreign countries. To a certain extent it could argue that the possible payments it would have to meet would be to certain countries which it could name. To a certain extent there would be an amount over and above that which might have to go to any country, which one could not be sure of. The first type could be met by holding foreign exchange to the required amount, and the extra general reserve should be

in the form of gold. It seems to me, if central banks considered their requirements in that sort of way, we could secure a much greater economy of gold than by arguing about what sort of percentage of reserves is required, which seems to me a totally unscientific way of solving the problem.

Mr. Graham Hutton: There is one point which must have struck all of us during this discussion, and that is, that the important question behind all this is the effect on the price level. For example, in the case of France the wholesale price level moves in sympathy with the world price level, the internal price level going in the reverse direction, due to the expansion of note issue. That is in part due to the fact that a considerable amount of short term money found its way over the Atlantic before the Wall Street crash. When the Wall Street crash took place, this came back either direct to Paris or via London, and the Bank of France was compelled to buy gold, if the holders preferred to take in gold. Against that it expanded the note issue, as is known. It seems to me the most important thing is not so much the question of percentages, or of ratios, but of some kind of control, which perhaps the Bank for International Settlements could in time exert upon short term money, immediately mobilizable money, which finds its way about in considerable quantities now, owing to the fact of the continual fall in the price level. The important thing to my mind is that we should keep our eye upon the price level and its effect upon the entrepreneur in all countries. The fact is, there is a considerable damping down of activities as a consequence of the increase in the short term money which finds its way about in this manner. In a case like France, where there is no limit upon the amount of *devisen* held abroad, it has the effect of inflating or expanding its internal currency. At the same time the movement of its wholesale price level has an effect on its exports which is deleterious.

The Chairman, Sir Basil Blackett: It has been rather remarkable how, during the course of the evening, we have managed to keep to the subject of what possible means there are of economizing gold, without discussing at any great length—even Mr. Hawtrey managed on the whole to keep away from it—the question of why we want to economize gold. The very awkward question, which I hope Sir Otto will answer, why central banks keep gold, and the question of the price level, are questions of very great interest to this group; but we are not discussing them to-night.

Mr. Fleming put his finger on one difficulty when he spoke of the

position in France. I think Mr. Hawtrey gave a portion of the answer to his question: Why does France keep such a very large reserve? But the answer in many of these cases is that the psychological attitude which regards a gold reserve as something flattering to national vanity is always present, and the fear that in time of emergency notes will not be found to be real economy. In India that is a thing one is constantly up against. India has been accustomed for a good many centuries to regard metals as the only things of value.

I do not know that there are any additional means of economizing gold which I can mention, beyond those which have been stated this evening. The point, I think, that this group should interest itself in is trying to get a full list of the possible means of economizing gold in order that they may be considered in relation to the question when we come to discuss it: Why do we keep gold? For what purposes and in what amount is it desirable to keep it?

The gold exchange standard was put forward quite definitely at Genoa as a means of economizing gold, and as a means by which co-operation between the central banks of the world in regulating the distribution and supply of gold for monetary purposes might be facilitated. It is true that the gold exchange standard has from pre-War days a sort of implication that it is only adopted by the weaker countries, or countries which are not entirely their own master. I think in India the gold exchange standard received a bad name among the Indians because it was regarded as something that was forced upon them by the British, because they would not give them the gold standard. If you could only convince people that the gold exchange standard and the gold standard are one and the same thing, then the possibilities of using the gold exchange standard with much more effect throughout the world would be much greater than they are to-day.

One or two speakers this evening have spoken as if, when a country reduced its holding of foreign exchange, it was doing exactly the same thing as when it reduced its holding of gold. That may possibly be true of the country which is reducing its holding of gold exchange; but it does not necessarily have the same effect in a country which, instead of receiving gold, is getting its own currency returned to it. Supposing this country, instead of holding £10 millions in gold, were holding $50 millions as part of its statutory cover for gold reserve, and supposing the time came when there was a drain on the exchange, and it gradually melted that $50 millions, it would not have the same effect on New York as the shipment of $50 millions in gold to New York. That has to be remembered and taken into account when you

are considering the gold exchange standard. Sir Otto will find many opportunities of answering the points which have arisen in the discussion, and I will now ask him to close it.

Sir Otto Niemeyer: Sir Henry Strakosch pointed out that I had not mentioned, as a possible source of economy, the exclusion of sight liabilities from the basis on which the percentage of cover was calculated. I did not mention that on purpose, and for this reason. In all the countries where that applies it is, of course, statutory. If you were to hope for a change in that direction you would be faced with the same difficulty I mentioned in bringing about a simultaneous statutory change in the existing minima. I had thought of mentioning it, but it seemed to me, if you were going to deal with that question at all, it was easier to have a general percentage reduction, leaving the basis alone, than to persuade people to change the basis. I do not mean by that that I am a convinced adherent of the idea of having cover on sight liabilities. I merely mean, as a practical proposition I should have thought, if you had to choose between the two, it was easier to reduce from 33 per cent. to 25 per cent. than to keep your 33 per cent., or some similar figure, on notes alone, and not on sight liabilities. Sir Henry mentioned the question of the hidden reserves of banks. I wonder whether there is really very much in that. The fact that some central banks may have reserves tucked away—reserves which could count towards their note issue cover with other items—offends one's statistical sense; but I should doubt very much whether the amount involved is sufficiently large to make any great difference in the picture. In the only cases that I can call to mind it is a question of a couple of millions, or that kind of thing. Therefore, I doubt whether there is much in it as regards economy of gold, though there may be a great deal to be said against it from the point of view of theory.

I am very much obliged to Mr. Kisch for explaining historically the basis of the 33 per cent. What he said rather confirmed me in my belief, because he said it was derived from the practice of the Bank of England in the years following the Act of 1844. But the position then was different. The whole basis in people's mind then was the liability to pay internally current notes in cash. That is not quite the position now, as it seems to me. I think the explanation Mr. Kisch gave is probably right historically; but I am not sure whether it is very good logic at the present moment.

Mr. Kisch: I also referred to the pre-1844 practice. I should like

you to investigate the point of whether the pre-1844 practice was also on that basis.

SIR OTTO NIEMEYER: Mr. Kisch also said I had exaggerated the difficulties of getting the legislation to alter the statutory figures, because he said there had been occasions where a good many countries had legislated at the same moment. Curiously enough, it was precisely the experience of that simultaneous legislation, with which I was somewhat concerned, which has created in my mind a vivid sense of the difficulty in getting that kind of simultaneous action.

I think I must leave Sir Henry Strakosch and Mr. Barber to reconcile in private their quarrel about sight liabilities. I think I should agree with Mr. Hutton that, if the Bank for International Settlements functions, as we hope it will function, and if the feeling grows up that here is an organ to which the central banks in time of trouble can go, it might considerably assist in reducing in some cases the excess of actual cover held over the legal cover.

Mr. Hawtrey provided a certain amount of answer—I do not know whether it was satisfactory—to Mr. Fleming. The only thing I would add on that subject is that it is fair to say that there have been signs recently of willingness on the part of the French monetary authorities to part with gold. Three or four million pounds of gold have, in fact, gone from France to Germany. Mr. Hawtrey said a number of things which I think I should probably disagree with, but he provided me with considerable comfort by telling me I was a black pessimist, and that he was much more optimistic. I think this is the only time when Mr. Hawtrey has said anything of that kind to me.

There is only one thing I would like to add, arising out of what Mr. Hawtrey said. I hope I did not leave the impression, when I was enumerating the difficulties I saw in the gold exchange standard, that those difficulties had turned me into an opponent of that standard. That is not so at all. What I meant to convey was that there were these difficulties, difficulties which exist perhaps more outside this country than inside this country. I think they are very real difficulties; and difficulties which those of us who believe in the gold exchange standard have not dealt with fully enough to create a real impression upon those who think differently.

As a result of our discussion I come back really to what I ended with when I was speaking before; and that is, that it does seem to me that the only way in which one can hope to make progress in solidifying opinion and in obtaining a united front which can bring about a co-operative effort in the economizing of gold is through the platform

of the Bank for International Settlements. I think that is really the most hopeful sign that there is on the horizon, although at present it is rather a vague sign.

Selection of Comments on the Proceedings

MR. J. H. PENSION: The group will give full weight to Sir Otto Niemeyer's remarks as to the difficulties in getting amendments of central bank statutes. On the other hand, one of the objects of the group's work, as outlined at the beginning, was to educate opinion among central banks themselves, and we ought not, therefore, to be deterred even by the undoubted practical difficulties that exist. Moreover, even the attitude of central banks as regards their own statutes should in the long run be subject to the paramount interests of the community, and if it can be shown that present arrangements need modifications in the public interest, we ought not to hesitate to say that they should be made.

The point raised as to the surplus reserves over legal requirements kept by central banks appears to be bound up inextricably with the question of reserves themselves. In practice, it is these surplus reserves which do the real work of reserves. The legal reserves are locked away under present arrangements, and perform little or no useful function. When we ask the question, what surplus reserve does a particular bank need to keep, we are really asking what its reserves should be. I hope this point will be developed at later meetings, and we can hardly come to a final conclusion about the surplus reserves until this general question is cleared up.

It is clear that in certain countries the total reserves of gold held are greatly in excess of reserve requirements, and it is, therefore, open to question whether our troubles at present can be said to be primarily due to shortage of the metal. But the countries with relatively large gold reserves have a specially powerful influence on financial conditions throughout the world. If such a country persistently maintains a policy of deflation, it will tend to compel others to follow its example. That would appear to be a reason for the world-wide influence of the United States monetary policy last year. One remedy would undoubtedly be to readjust in some way the mal-distribution; but this presents great difficulties, so long as the policy of central banks remains as at present. Another policy would be to try to achieve regular co-operation between the greater central banks, so that the evils of one such institution pursuing a deflatory policy to the detriment of its neighbours should be avoided if possible.

It may be that the group should devote an evening to considering the question how the gold exchange standard could be developed, and its adoption extended. We in this country are not perhaps in a very strong position in this respect. What precisely would be the disadvantages of our including foreign currency, up to a certain proportion or above a certain statutory sum to be kept in metal, as part of the reserves of the Bank of England? This is a problem which requires further investigation. Theoretically it should be possible, as Mr. Hawtrey says, by buying and selling foreign exchange, to avoid exports of gold altogether. Is not the supposed advantage in an export of gold, that the exporting country anticipates that it will lead to an inflation of credit in the importing country? But this is not always the case, as the practice of the United States for some years past shows. If all countries could be persuaded to adopt a large proportion of foreign exchange among their reserves, this would lead to a substantial economy in gold—one which might set off the fall in gold production, anticipated by Mr. Kitchin. It may be said that it is a form of inflation, but inflation and economising gold are identical policies at bottom, though undertaken in very different circumstances.

Mr. Milne-Bailey: This discussion does not give rise to any great feeling of hope regarding direct methods of economizing in the use of gold. It does not appear likely that the adoption of the gold exchange standard will become more widespread, although Sir Otto Niemeyer is undoubtedly right in saying that the whole question ought to be reconsidered with a view to restating the doctrine of the gold exchange standard in a way that would make it more acceptable to other countries.

Mr. J. R. Bellerby: The problem of adjusting the demand for gold to the supply is an eternal one. We may succeed at the present time in adjusting the monetary demand for gold to the available supply; but what we do now will have to be done again in five years; and again in another five years . . . *ad infinitum.*

Does this not somewhat multiply the difficulty of achieving the end through the means discussed by Sir Otto Niemeyer? Virtually every suggestion he made, to be widely effective, 'would mean altering some fifty bank statutes' and would involve difficult legislation. Is there any hope then, that this process may be carried through every five years? There is one suggestion not, I think, made during the discussion, to which these criticisms would not apply: namely, that

every country should fix for all time the *absolute* amount of gold to be held as minimum by its central bank. There would then be no increase in the world demand for gold however rapidly trade might expand or prices rise. The only disadvantage of this suggestion, as compared with the other mentioned here, is that it would provide no safeguard against limitless inflation.

A means of economizing gold reserves might be suggested which would obviate the need for repeated changes of statute, and would guarantee permanently the adequacy of the reserves. It would involve, at the outset, legislation in all countries giving discretionary power to the central banks to modify their price for gold.

Given this power, central banks would, through the machinery of the Bank for International Settlements, universally and uniformly raise the price of gold whenever a shortage of reserves was threatened.

This would have the effect (*a*) of increasing the value of the gold held in all central banks, and therefore of easing the reserve situation; and (*b*) of stimulating the production of gold.

No fluctuation in exchange rates would result if the changes in the price of gold were uniform.

Mr. E. L. Hargreaves: The discussion of the group seems to have left some uncertainty surrounding the conception of the scarcity of gold. To what does this scarcity refer? Does it refer to (1) the amount of gold held by central banks relatively to certain legal requirements; (2) the amount of gold held by central banks relatively to the maximum external drain they are likely to experience; (3) the amount of gold required by way of annual production to maintain a stable level of prices? There seems, further, to be a sub-division of the last two questions according as legal reserve requirements with regard to actual gold holdings are (*a*) modified, (*b*) unmodified. With regard to legal reserve requirements it seems clear that the actual reserve requirements were based originally on the possibility of an internal drain; where, owing to the abandonment of a gold circulation, such a drain is no longer possible there is considerable room for the modification of the requirements.

Mr. D. T. Jack: The question has been raised as to why, in general, gold reserves should be kept by central banks. That question appears as one which is antecedent to the inquiry relating to the possibility of economizing in the monetary use of gold by central banks. The following notes relate to that preliminary inquiry.

Orthodox theory before the War suggested first of all that gold

reserves were necessary in order to meet probable demands for the repayment of notes and deposits. At that time gold circulations were commonly experienced and it was not uncommon for a preference for gold coin as compared with bank notes to be exercised. In England the absence of bank notes of smaller denominations than five pounds represented a limiting factor on the use of notes, which did not exist in the case of Scotland; though in Scotland the absence of a note for ten shillings led to a considerable circulation of half sovereigns. The fact of a gold circulation coupled with the requirement that notes be immediately convertible into gold coin, as distinct from gold bullion, made it necessary for the banking system, and the central banks in particular, to hold reasonably adequate gold reserves against the notes issued.

Under modern conditions demands for the repayment of notes in gold coin either do not, or cannot, exist. The use of paper money for purposes of internal circulation is now firmly established and there is no reason to suppose that there exists any strong sentiment in favour of a return to gold coinages, except perhaps in the case of the Latin countries. To that extent it becomes unnecessary to hold reserves in actual gold against internal note issues. The view is sometimes popularly expressed, of course, that gold is necessary as a 'backing' to note issues, the implication being that somehow the value of a note issue is derived from the amount of this 'backing'. For this idea there is no foundation, and it finds no responsible support.

The other function of central gold reserves was to meet demands for means of payment in other foreign centres. Under pre-War conditions such demands for gold were mainly associated with a position of exchange dis-equilibrium, the function of the gold outflow being only partly to liquidate an adverse balance of indebtedness and for the most part to facilitate a change in the underlying conditions of credit and prices, such that the adverse balance would be settled in goods and services. Such a gold outflow was important as an index and as a warning to the central bank that corrective forces were necessary and that some credit restriction was called for. Failure to take this action exposed the country in question to the risk that the value of gold within it would remain permanently out of equilibrium with its value elsewhere. If the central bank failed to restrict credit the gold outflow might well continue and its entire gold holding be lost. In short, while the pre-War gold standard had the appearance of working automatically, some degree of management was also present. So far as Great Britain is concerned the operation of the Act of 1844 compelled a contraction of note issue *pari passu*

with reduction of the central gold reserves in the Issue Department, and gold for export might be obtained by presenting Bank of England notes for conversion into coin. This procedure, however, is no longer necessary nor is it practised. Gold may be obtained from the Bank in bullion form and may be paid for by means of a cheque drawn on a bank balance. But, in any case, even under the earlier procedure, the automatic reduction of the note issue would not have been sufficient to contract credit adequately and without deliberate action by the central bank through its discount rate.

Under modern conditions it is common for central banks to hold considerable portions of their actual reserves in the form of foreign exchange and balances with other central banks, and these as well as gold may be used for the purpose of meeting demands for foreign currency. Taking the four central banks of Germany, France, Italy, and Belgium at the end of June 1930, their total reserves of gold and foreign assets amounted to £900 millions and of that total £306 millions, or 34 per cent., consisted of foreign assets. But just as under former conditions an adverse balance of indebtedness calls for its corrective action by the central bank, and it makes no essential difference whether the external drain is experienced on its gold reserve or on its foreign exchange reserve. The fact that foreign exchange reserves may be held makes it less essential to hold reserves in actual gold. What is essential is that some reserve be held in a form which will be immediately acceptable in foreign centres and which can be used to meet demands arising from an exchange position which is in disequilibrium.

How large should this reserve be? For a minimum it must be sufficient to meet demands which may arise *until such time as equilibrium will once more have been restored.* This follows from the fact that the return to equilibrium must be made through credit policy; it is not made merely through the drain on the reserves of gold. Therefore, a central reserve either in gold or foreign assets is necessary to meet extraordinary demands for remittance abroad until the credit restriction will have been effective in achieving its purpose. That conclusion is similar to the point made by Mr. Hawtrey: 'The general principle remains that it is no use holding a greater gold reserve than will enable you to make the greatest possible contraction in your currency that you will want to make in any emergency.'[1] But it can be said that the more efficient is the mechanism of credit control in any banking system or the quicker can readjustment from dis-equilibrium be effected, the smaller will be the reserve which it will

[1] See p. 102 above.

be possible with safety to maintain. Hence I would suggest that the group devote some attention to the technical problems of credit control by central banks, more particularly from the point of view indicated above.

It would appear that the strict adherence to fixed minimum legal reserve ratios, whether to notes or to notes-*cum*-sight-liabilities is an historical survival with no strictly scientific foundation. On the other hand, some definite assurance is demanded by the public that adequate reserve provisions will in fact be made. To leave the matter solely to the unfettered discretion of central bank directorates would probably fail to satisfy that demand, even though it is recognized that modern central banks play for safety and hold larger reserves than they are required to do either by law or out of considerations of financial caution. In so far as they hold reserves in actual gold as distinct from gold exchange, they deprive themselves of potentially earning assets, and from a pecuniary point of view they act contrary to their own immediate interests. They may, of course, decide to hold gold in preference for psychological reasons since the risk of loss is apparently less. It could, however, be pointed out that if any real measure of risk attaches to the holding of foreign balances, the prospects for international financial relations, and therefore for international trade, must indeed be poor.

It is frequently said that the holding of reserves in foreign assets as distinct from gold is viewed with disfavour by many central banks for such reasons as Sir Otto Niemeyer has indicated. If that disfavour is strongly held it would be reasonable to suppose that now that monetary conditions are more settled reserves in actual gold should figure more prominently in central bank statements. It may, therefore, be useful to compare the position at the end of June, 1929, and at the end of June, 1930, for a number of central banks. In that period the gold reserve of the Reichsbank increased from £95 millions to £131 millions and its reserve in foreign currencies from £18 millions to £23 millions. In the case of the Bank of France the gold reserve increased from £295 millions to £355 millions while the total of foreign assets remained stable at £209 millions. In the case of the Bank of Belgium gold increased from £29 millions to £34 millions and foreign assets from £13 millions to £21 millions. With Austria gold remained steady at £4,900,000 while foreign exchange reserve increased from £5,600,000 to £7,500,000, and in the case of the Bank of Finland, while the gold holding remained steady at £1,500,000, foreign balances increased from £2,800,000 to £5,500,000. In fact, only in the cases of the Bank of Poland and the Bank of Portugal has any reduction

occurred in the foreign assets reserve. It seems reasonable to conclude therefore that the alleged antipathy to the gold exchange standard has not yet manifested itself in any concrete form. The five central banks cited above, together with the Bank of Italy, hold £320 millions as reserve in the form of foreign assets.

We are brought then to the question of the extent to which the actual reserves of central banks exceed the minimum reserves prescribed by law. In June, 1930, the Reichsbank required £104 millions of reserves to satisfy the law, while its actual reserves amounted to £154 millions, giving a surplus reserve of £50 millions. The Bank of France required £264 millions to satisfy the law and had actual reserves of £564 millions giving a surplus reserve of £300 millions. The Bank of Belgium had a surplus reserve of £20 millions and the Bank of Italy £53 millions. Taking these four continental central banks, we have a total surplus reserve of fully £420 millions over their minimum legal requirements. Since the total reserves of these four banks amounted to £900 millions, it may be said that only 53 per cent. were held in conformity with legal requirements and 47 per cent. were in excess of these requirements.

The particular cases of the United States, Great Britain, and France have been dealt with by Mr. Hawtrey in the paper referred to above[1]. In the case of the Federal Reserve Banks, surplus reserves amount to £300 millions and at the same time there is gold in circulation and gold certificates fully covered by gold held in the United States Treasury amounting to £250 millions. From one point of view, therefore, it may be concluded that credit policy is not handicapped through any real inadequacy of central bank reserves. The real problem may arise later should world prices move upwards in response to a considerable credit expansion promoted by general easy money conditions continuing for some time. It would then seem to be important to induce central banks to make the fullest use of foreign assets for reserve purposes.

[1] 'Money and Index Numbers'. *op. cit.*

Fifth Meeting of the Chatham House Study Group on the International Functions of Gold, 16*th April,* 1930.

SOME PROBLEMS OF INTERNATIONAL BANKING POLICY

By DR. M. PALYI

COMMANDER STEPHEN KING-HALL in the Chair.

THE CHAIRMAN, in opening the proceedings, said that advantage had been taken of the presence in England of Dr. Palyi, the economist of the Deutsche Bank in Berlin, to invite him to address a meeting of the group.

Dr. PALYI: The problem in which you and we are interested would perhaps be better described as the problem of the business cycle, or of the development of prices and profits, than simply as the problem of gold. Nevertheless, it is very useful to emphasize the gold side of the question, even in face of the danger of over-emphasizing it. I have the impression that some of you who discuss the question in this group start out from the dogmatic position that the present depression of prices is due to scarcity of gold. The statement which I understand Sir Josiah Stamp has made, that the actual artificial dearth of gold affords a formula for the problem, may be misleading when we are trying to get to the concrete issues to be worked out. I may be exaggerating, but it seems to me that from a certain angle we can just as well speak about the over-abundance of gold as the scarcity of gold. Taking the note banks, almost with the sole exception of the Bank of England, they have a higher ratio of reserves than they used to have. In the United States, over the average of the last ten years, the Reserve Banks are better supplied with gold than the national banks before the War. There is no need to speak of the Bank of France. The Reichsbank is certainly in a better position on the average of the last two years than it was in the pre-War period. . . . Disregarding one or two exceptions, notably the Bank of England, which I do not want to discuss, the note banks are perfectly well supplied with gold for practically any purpose of their own. They are as a whole at the present time in a position to supply the world with a much larger amount of credit than they do. There is no obstacle to their doing so from the point of view of the gold foundation of currencies. For the rest of the banking world the situation may be somewhat different. In a Monthly Bulletin of the National City Bank of New York there

was an attempt some time ago[1] to make a computation of the ratio of gold reserves to the total bank deposits of the United States and of Great Britain for two years, 1927 and 1928, which showed that the ratio had fallen in the last twenty years. If this computation is right, it shows, compared with a similar computation for 1914, that the gold reserves of the world are to-day used to a larger extent than before the War to expand credits. The assumption is certainly true for Germany. The ratio in the country of gold to the total amount of deposits is certainly lower at present than it was in 1913. This may mean many things, but it certainly does not mean scarcity of credit on account of unsatisfactory use of the existing gold reserves. It is undoubted that, from the point of view of the business community, a better use of the existing gold supply is being made to-day than before the War. This decline of the ratio may mean that at present the extending of credits is somewhat more difficult than it would be if the ratio were better. But practically no banking system is unable to give more credits if sufficient securities are offered. Since about the middle of 1929, when the fall in price levels became really substantial, the ratio of gold to total bank deposits has risen rather than fallen. The banking world as a whole is in a better liquid position than it was a year ago. All these signs do not seem to point to a scarcity of gold; they show rather that there is still quite a considerable possibility of expanding credit on the basis of the existing gold supply; and in studying the question, to start out with gold is possibly to put the cart before the horse. It has to be proved first that there is such a thing as scarcity before we try to solve the problem how to get round it. Of course, this does not mean that there is no future possibility of scarcity of gold, but as things look at present it is not impossible that the production of gold will keep pace with the production of goods. We might on the subject of forecasting the future production of gold learn something not from past production but from past forecasting. In the 'seventies, at the time when the heated debate about the silver question was already going on, the most famous geologist of Europe, the Viennese professor Süss, wrote a book[2] on the question proving that, on the basis of the best knowledge of the geologists, there was no chance of expanding gold production, and that consequently there would be a permanent scarcity of gold. This book had a tremendous influence all over the world, especially in the United States. . . . Twenty years after the appearance of that book the Transvaal mines were discovered and gold production took on a new development. I feel rather uncertain about prophecies

[1] October, 1928.

[2] *Die Zukunft des Goldes.* 1877. (Vienna.)

based on the assumption that we already know everything about this planet on which we are living and about possible developments in the technique of gold production, which is also very important.

With regard to forecasting, I think it is extremely important that we should examine this question from the angle of international co-operation or discussion. Forecasting is very important, not so much of gold production as of price trends. You have discussed thoroughly the question of the economics of price trends, and from what I have heard I feel that there is an inclination to believe that falling prices, at least slowly falling prices, may possibly do less harm to the general public than rising prices, but that a monetary policy tending towards slowly falling prices is just as much or even more likely to find insurmountable difficulties than any other systematic price policy. I do not want to discuss these fundamental issues again, but one thing seems to me to be certain—that, whether we believe in slowly or not slowly falling and rising prices, we will agree that the main concern of the business community is to know which way prices go. Most of the consequences of price developments such as we are discussing could be overcome if we could determine what the price development will be; in other words, insecurity is the real problem, and is probably easier to overcome than the troubles arising out of the price developments themselves. From a practical angle, the most important point on which co-operation is required is to find out methods for arriving at fairly reliable general price level forecasts covering a substantial period of time. For short periods of time it is not so important. For a substantial period, by which I mean at least a few months, it ought to be and is possible to make somewhat reasonable forecasts. It is very difficult to say whether in the next six months the price of cotton will rise or fall, since a number of factors, such as the crop, are involved which are beyond the limits of human prophecy; but it is theoretically possible to find out the underlying factors of a general market situation, of raw materials, let us say, and to do something on co-operative lines which will help the business man to forecast the probable trend of general prices. It may not be very useful for, say, the cotton merchant to know the general rise or fall in prices when the cotton price will be an exception, but the cotton dealer is not our sole concern. This seems to me to be a primary subject for international discussion and for the international organization of co-operative work. Now this forecasting business would be very much easier if we could agree upon the gold side of the question, because we could then for such periods as one year possibly forecast the amount of gold to be produced, and make something like a prophecy with regard to the price level.

Unfortunately, I cannot believe that this is precisely the problem which matters, and among other reasons there is the relation between the industrial and monetary use of gold. A period of falling prices means rising value of the gold in monetary use and at the same time falling value of gold in the industrial use, since gold as an industrial product must have the same price trend as other industrial products. Consequently, in such a period, especially if it lasts a longer time, it is likely that gold will be drawn from the industrial to the monetary use. Now the estimates about the quantitative ratio of monetary and industrial use of gold are rather uncertain, but, even if we take it for granted that something like two-thirds of gold is used for monetary purposes, the remaining one-third gives a sufficient margin for possible artificial enrolling of industrial gold into the monetary use, so as to overcome at least a part of price depressions by means of having more gold drawn into monetary use; in other words, any falling price trend automatically draws gold from the industrial into the monetary use, and, if the falling price trend were based mainly or solely on the gold side of the issue, then this factor ought to counterbalance partly the falling tendency of prices.

Another point I would mention is the elasticity of the gold supply. It is likely to be under-estimated. Every forecast of the amount of gold to be produced in any limit of time is usually made without mention being made of this assumption of a given value of gold, a value in terms of the goods to be bought by gold; in other words, if we take it for granted that prices will fall, we have to think of future gold production not in terms of the present rate but in terms of a rising rate of production, within the limits, of course, of the technical possibility of such extension of production.

The problem of the distribution of gold over the world is almost more important than the problem of the quantity of gold in existence. Gold movements are, practically speaking, based on the international balances of the individual countries. As a general proposition, gold does not move from one country to another, except where the one country has an adverse balance and the other a so-called favourable balance of payments. It is only the balance of payments which has to be paid in gold, and gold moves only to pay for international balances. The capital movements are the real elastic factor in international trade—much more elastic than trade balances, tourists' movements, or anything like that. *The entire gold standard is based on the functioning of the* (short term) *capital movements*, on their elasticity in view of relative changes of interest rates; if a country is not able to attract foreign capital by raising the interest rates, then it may lose gold until

the gold standard breaks down. The amount of gold moved and the directions in which it moves are largely based, in their changes at least, on the changes in the capital movements all over the world. We have at present a world wide situation characterized in this respect by two factors. (1) Capital movements are not, as they usually were before the War, movements of a purely rational type, with capital moving from the country with the lower to the one with the higher interest rate. This purely rational movement of capital based on interest rates is counteracted to-day by risk and other factors of a rather irrational type, factors which are responsible for the substitution of short term for long term capital, and which are largely influenced by individual elements in the situation. (2) There is an unusually large amount of deliberate governmental or note bank policy in the capital movements. For both reasons capital movements are not, as they used to be and as we treat them in the text-books, a matter of mere automatic equilibrium. They are *to some extent* a matter of deliberate policy, and the question arises, what can we do by research and practical measures to influence these policies, and in which direction should we influence them. The amount of capital unmoved and irremovable on account of resistance arising out of the two factors I mentioned is likely to cause more harm to the countries which do not receive those amounts than good to the countries which have a larger supply of capital by not exporting it. It is, of course, a very controversial subject, butI hope to be able to say something for this proposition. At any rate, in a given international situation when prices are falling, the total world situation could be changed by an alteration (which of course would not arrive overnight) of the capital movements to a substantial amount. The falling of prices all over the world induces banks to withdraw credits, not because they are short in cash, but simply because bankers are members of the business community; they share its risks and profits and are subject to its psychological attitude. They will be inclined to assume, as other business men do, a continuation of the general depression and will therefore be reluctant to grant new or to renew existing credits. If in such a situation new international credits could be granted and short term credits transformed into long term debts, that would mean that, through financing international trade, creditor countries would lend against the securities of debtor countries and thus make it possible that such securities, which otherwise would not have been taken as collateral, would become possible objects of the secondary liquidity of the banks in the creditor country. This function of international credits to create secondary liquidity for banks gives

to the international credit a particular role in the general price situation which ought to be more thoroughly studied than it is at present; and, if my presentation has any value, then methods of co-operation ought to be found to make possible capital movements in cases where they are likely to stop. In other words, at least in certain markets, and at least temporarily and in certain amounts, we can moderate international depression trends simply by new distribution of gold and, what is the same thing, by redistribution of credit, without raising the question of the total amount of gold. Such a redistribution could only be useful, however, as a temporary measure and one used with the greatest discretion.

I was not prepared for a formal talk, but I think I have done enough to start the discussion. Perhaps I may mention one other point, one which is now very much in the centre of general interest—that of co-operation through central banks. An extension of international credit is likely to be through the medium of an international bank, and any anticipated improvement in this direction may give rise to the hope that it will be improved in other directions. What I have in mind, personally, so far rather vaguely, is not co-operation of a centralized type through central banks of issue, but rather co-operation of a decentralized type. We have all over the world a large amount of leadership of the money markets through the central bank of each individual country. Opinions differ with regard to the value of this leadership, and not everybody believes in the wisdom of central banks of issue in leading their national money markets. Whether we believe in it or not, we certainly agree that a number of mistakes, and very substantial mistakes, have been made by central banks. I only need to remind you of the policy of the Federal Reserve Board in the late summer of 1927 of lowering interest rates, and by that method helping speculation on the stock exchange (it was already going on, of course, and it would be unjust to make the Federal Reserve Board wholly responsible). If an international central bank had taken the lead in such a policy, co-operating with the Reserve Banks and helping them to enforce their idea of cheap credit at that time, the movement might have been even greater than it was. One is likely to answer that an international central bank of the type of the Bank for International Settlements would not have very substantial means at its disposal to do anything comparatively material to help the Reserve Banks. That may be true for the American situation, but not necessarily for the situation in a smaller country, and we know that a central bank has a very large moral influence on the stock exchange situation, even if it has not enough money in the

technical sense to influence the market. At any rate, a central bank alone is less strong than a central bank plus another central bank. An international bank runs the danger, from the point of view of monetary policy, of becoming a club of central banks without any public control. In other words, international co-operation based on something like an aristocratic club of men occupying a leading position in their own country by reason of being directors of central banks is an extremely interesting experiment; but we have had so many experiments in recent years that we had better not propose new ones without being sure that they will go the right way.

So, without being able to make more than very vague suggestions, it seems to me that co-operation is necessary and possible, and that one of the tasks of this group would be or could be to find out methods of co-operation, based on public control and public discussion, not only between central banks but between banks in general.

Discussion.

MR. H. V. BERRY: What I want to ask arises out of Dr. Palyi's concluding remarks. Co-operation between banks will obviously become easier as the numerous banks in Germany are concentrated into a few big banks. This process is beginning to-day, and it appears that in some districts it is going on very rapidly. I should like to know whether Dr. Palyi thinks that in, for instance, ten or twenty years, or a shorter time, we are going to have the same situation in Germany that we have to-day in Great Britain, practically speaking—the Big Five in each town, instead of a host of private bankers in Hamburg, Frankfurt, and the other big towns. What is his opinion on the probable speed of that development?

DR. PALYI: We are already in that situation. We are practically left with four big banks with a system of branches all over the country. There are also three or four other banks with branch systems on a very much smaller scale than those four big ones; and a rather large-looking number of private banks, most of which are in reality stockbrokers. There is no formal difference between a stockbroker and a banker in Germany. Already the situation in Germany is not substantially different from that in Great Britain, and it is certainly likely to be even nearer to the British one in a few years' time.

MR. R. G. HAWTREY: I should like to touch upon two or three points. Dr. Palyi drew a distinction between the view of this problem

taken in Germany as a price problem, and the view of it taken in this group as a gold problem. I think there is a danger of his misunderstanding our attitude in that respect. Personally, I have regarded it all through as only a gold problem because we have a gold standard; that is to say, as a matter of fact our currency unit represents the market value of a certain quantity of gold. For that reason the problem is a gold problem, but I do not believe that our attitude towards it differs materially on that account from that of the German inquirers to whom Dr. Palyi refers. To us also it is a monetary and price problem.

Dr. Palyi dealt with the question of the future gold supply, and he suggested that at the present time there was no scarcity of gold. There I entirely agree with his view. On the other hand, I think it is undeniable that the recent fall in the price level has been due to an accumulation of gold, a desire to accumulate gold on the part of the monetary authorities in certain countries. He pointed out that the United States and France, for example, have very large accumulations of gold, and that Germany has an adequate supply of gold, but those large accumulations of gold have been arrived at as the result of a certain amount of international competition. That past competition for gold has had the effect of reducing the world price level. It has had the effect of leading each country in turn to contract credit and to contract its money supply for the purpose of bringing about an import of gold. Those contractions of credit have directly caused an appreciation of the monetary unit of the country concerned. Each in turn having done that, all the monetary units have appreciated, that is to say, gold itself has appreciated in terms of commodities. I think that accurately describes what has happened, and the existing plenty of gold is merely the result of that competition for the supply of gold after it has worked its effects on the currencies of all those different countries.

Another important topic was the movement of balances from one country to another, a movement of funds seeking investment for short periods. I have a suggestion to make in that connexion which I think would perhaps deal satisfactorily with the difficulty so far as it arises. Dr. Palyi pointed out that in reality the balance of payments which has to be settled by a movement of gold is a thing within human control—it is not independent of monetary policy. I would go further than that and say, that not only is it not independent of monetary policy, but that central banks have ready to hand a device which would enable them absolutely to guard against imports of gold at any time. If a central bank chooses to make a regular practice

of buying foreign exchange at rates just within the gold import point, it need never import gold at all. Whenever the state of exchange is such as to favour the import of gold, the central bank can ensure that bills will be imported instead. If all central banks deliberately adopted that policy, there need never be movements of gold to settle the balance of payments. You see that illustrated in the policy of the Bank of France a few years ago. In the period from the *de facto* stabilization of the French franc at the end of 1926 until the end of 1928, the Bank of France was buying foreign exchange regularly at an approximately fixed price, and so accumulating enormous quantities, both of bills and of deposits, in foreign countries. They did not at that period carry that policy so far as not to import any gold, but, if they had chosen, they need not have imported any gold. When they did so it was an act of policy. They found that their buying of bills was relaxing credit in foreign countries, and they thought that favoured a speculation on the rise of the franc, and for that reason they deliberately imported some gold in place of foreign exchange. Since the beginning of 1929 they have made a change in their policy. They fixed the amount of foreign exchange they were prepared to hold at twenty-five and three-quarter milliards, and as a result any balance due to them had to be paid in gold. There were also complications; in point of fact, their supply of currency at that stage was not adequate for their needs, and it could only be extended by imports of gold. The result was that the Bank of France did import an excessive amount of gold. That illustrates what I have been saying, that the policy of buying foreign exchange instead of importing gold will enable a central bank, if it chooses, to avoid the importation of gold altogether. Presumably that system could only be put into general operation by international agreement, but I think everybody who studies this question ought to keep in mind the fact that that is a possible course which would completely avoid all the difficulties arising from the temporary movement of balances from one country to another.

Dr. Palyi also made the rather interesting suggestion that international co-operation in banking might be extended beyond the central banks to the competitive banks in various countries. I have no doubt that there is much that they could do, but I should rather deprecate that kind of international co-operation being associated with the co-operation of central banks. The difference is fundamental. Central banks are entrusted with the purely public task of regulating the monetary policy of their respective countries. The competitive banks are engaged in ordinary profit-making business; there may be

extremely public-spirited people engaged, but their primary duty is to conduct their business on a safe profit-making basis. There are great dangers in too intimate an association between powerful corporations engaged in profit-making business.

Mr. C. H. Kisch: With reference to the importance of being able to forecast changes in the general price level, I should like to put this question. If every business man knew what the future of prices was going to be and applied that knowledge to his own particular business, and others in the same branch of business did the same thing, would not the fact that they all had the knowledge in advance and acted accordingly lead to a disappointment when the time arrived? If everybody had reason to think that the price of commodities was going to rise in six months' time, it would tend to stimulate the production of commodities in general on a greater scale than had been assumed in the forecast, with the result that when the time arrived the increase in supply would not permit of the anticipated increase in price. Hence there would result disappointment, recrimination, and loss.

I think the same point arises in regard to monetary policy. In this connexion there is a considerable dispute going on here as to how far the recent price fall, to which Dr. Palyi referred, is due to forces on the side of production or on the side of monetary policy. Professor Cassel takes the view that the whole of this question has rested in the hands of the Federal Reserve Board, and their policy over the last two years has been productive of this particular situation. Now, if that view can be substantiated, does it not mean that one would have to have some knowledge, in forecasting price movements, as to what the monetary policy was going to be of the predominant monetary power at the moment, which is the Federal Reserve Board; and they have publicly stated the view that they could not possibly forecast their own proceedings, because if they did so they would be immediately countered by the whole of the business community over the whole world. It seems to me that in this question of price forecasting the fundamental position of the United States has got to be drawn into the picture, and I should like to ask Dr. Palyi to give his views on the matter.

Would he also give us his opinion on the question of how far monetary policy and influences on the side of production have been responsible for the recent fall in prices?

I should like to know something of the attitude of Germany about the gold question. Mr. Hawtrey has spoken about the Bank of

France. Now at present the central bank of Dr. Palyi's country is a very active purchaser in the gold market, and I should hope to know that the Reichsbank has no gold passion such as Mr. Hawtrey has attributed to the Bank of France.

On the price question I might have said: Is it true to say that the recent situation is the result purely of gold competition by the central banks, or have we not to consider that the dear money movement of the last two years, which was imposed by the United States for reasons unconnected with her gold supply, had the effect of putting various countries on the defensive as regards its own gold standard? The Bank of England has shown an extraordinary breadth of view in tackling that question by allowing its gold to fall to a level which people here would not have anticipated, seeing the proportion of gold held elsewhere. The Bank has run the gold standard on a low level of gold, even in relation to the suggestions of the Bradbury Committee, which looks to us quite modest in comparison with amounts held elsewhere, having regard to the special responsibilities of London. On the monetary side I should be inclined to think that the fall in prices was not so much due to gold competition, but to the defence of its standard, which one country after another was forced to undertake owing to the policy of the United States.

Dr. W. H. Coates: Dr. Palyi suggested that movements upwards or downwards of prices would not necessarily be of great concern to the business man if he knew them some reasonable time beforehand, but during the broad general downward movement of prices, which is likely to continue, I do not think that the business man would find himself in a really happy position. It would be no satisfaction to him to know that the stocks he has in hand are slowly depreciating in value. It will be no assistance to him, when he considers the period during which production has to take place, to know that the raw materials he has bought at one level of prices he will have to sell, when transformed into his manufactured products, at a different level of prices. The knowledge that prices are likely to continue to fall will not remedy or prevent his general policy of waiting until prices are lower. Now one of the great evils of the continually falling price level is this slowing up of the tempo of business and the resort to the cushion of stocks so long as stocks permit, by ceasing to make, and also, in regard to the merchant, by ceasing to buy.

Perhaps Dr. Palyi would also tell us how, in an industrial country of this kind, where labour is organized in strong units, we are to deal with the problem which arises of slowly rising levels of real wages.

That, of course, is one of the great difficulties to-day in this country, when reviewed over the period of the last five years.

Sir Arthur Salter: The angle from which the Gold Delegation of the Financial Committee of the League of Nations is approaching the problems arising from the fluctuations in the purchasing power of gold is slightly different from that adopted here. We are not really concerned with the problem as to what has been the cause of the recent depression in prices, or with trying to find any particular solution for that problem. We are taking a longer and more general view: we believe that among the causes that are tending to affect the general level of prices is a fluctuation in the ratio between the supply of and the demand for gold. Now that very nearly the whole world is linked on gold, it is clear that we have tied our fortunes to the unknown factor of the future demand for and supply of gold. We are studying that first as a theoretical problem, and secondly with the hope that we may be able to suggest some practical action to deal with the evils likely to arise from fluctuations. I do not myself look forward as an ideal to the complete stabilization of prices. I think we should study to what extent and by what methods it is practicable to eliminate or reduce fluctuations in the relations of the supply of and demand for gold as a factor running through all the other factors which affect prices, and tending either to raise prices or to put them down. It is conceivable that, within certain limits and under certain conditions, agreement between central banks as to the reserve, coupled with some understanding as to standing by each other in case of need, might eliminate temporary variation and the consequences, or at any rate reduce their effect. I do not imagine automatic action. I do not imagine that there will be any authority which will take a single general price index and say: 'Prices have gone down 5 per cent., let us therefore do something that counteracts that 5 per cent.' I imagine rather that central banks, in co-operation, using price indexes as their first basis of evidence, but supplementing them by other forms of evidence, might be convinced, at certain periods, that there was an actual and increasing scarcity, and that they might then be able, by somewhat reducing the reserves that they are accustomed to hold in gold, to counteract that movement. Dr. Palyi, referring to the recent movements, suggested that they were independent of the gold question, because prices are going down and there is no gold scarcity. I think Mr. Hawtrey has really answered that question. It depends on what one means by scarcity. If all the other factors were the same, Dr. Palyi's argument would be valid,

but the fact is that, if you take the demand for gold as the effective demand by those who are purchasing it, the competition we have seen between the different central banks of the world has meant a scarcity; that is to say, without a corresponding increase in the production of gold, we have had an increase in the immediately effective demand for gold; and that has been a factor in the downward movement of prices. Doubtless there is a point at which any such measures as between central banks would be ineffective. Beyond that point we may have to follow where gold takes us—or measures outside the competence of central banks must be contemplated.

Dr. Palyi referred to the great difficulty of prophesying the future production of gold. In doing so he seemed to suggest that that fact made it less necessary to pursue the line of inquiry which is being pursued by this group. I think the conclusion should be just the opposite. The production of gold *is* uncertain; it is precisely that uncertainty that makes it most necessary to try to work out, theoretically in the first instance, and with practical conclusions if we can in the second, what it would be practicable and useful to do to counteract the effect of unknown future changes in production, in demand—or more precisely in the ratio between them.

Dr. Coates: I understood Dr. Palyi to say it would be a matter of indifference to the business man how prices moved, provided he could know and forecast them. In my view, even if he knew and could forecast a steadily falling level of prices, it would not remove his difficulties.

Dr. Palyi, in reply to the discussion, said: I must either have expressed myself the wrong way, or else my English is so poor as to be responsible for my being misunderstood. In the first place, I did not mean to say that the value of gold could in any sense be regarded as different from the general price level. The meaning of the difference between 'gold problem' and 'price problem' is, of course, not a matter of formal definition; there is, however, a very substantial distinction to be drawn when viewed from the causal angle. This group seems to emphasize the gold side of the general price level equation as responsible for falling prices. I am rather inclined to think that there has been no such thing in the last few years as a gold deflation or a shortage of gold; the real forces underlying the situation did not arise, in my opinion, from monetary factors. Of course, Mr. Hawtrey may answer this by arguing that the imputation of effects to 'cause' is a rather difficult matter; and, at any rate,

a substantial movement of prices—whatever may be the 'cause'—is not likely to occur, he may further point out, if the monetary side has not offered, so to speak, its support. In other words, prices could not fall if the volume of circulating media were to expand at the same or at a higher rate than the volume of goods.

This argument, which we may label as the monetary theory of the price level, does not solve the present issue—even if it did so with similar problems in other periods. In the first place, as I have already mentioned, it has still to be proved that the volume of available credit did not rise sufficiently as compared with the growth of production. The deposit system of the United States, taking account also of the velocity of circulation of deposits, has been almost trebled since the beginning of the last War: is anybody inclined to think that the volume of production rose to the same extent?

Secondly, a failure of the credit mechanism to adapt itself to the needs of the business community ought to have found some expression in rising interest rates. But, as a matter of fact, the interest structure showed rather a falling than any other tendency during the period from 1922 until the start of the present fall of prices, which goes back as far as 1926. True enough, in 1929, when prices of raw materials were already fairly low (as compared with the previous year), the American money market produced a level of unusually high rates, so far as interest on brokers' loans was concerned. This is, however, only part of the story, and not the most important part. It should not be forgotten, in this connexion, that at the time of high money market rates in New York share values stood at their highest; which means that the industry in the first eight months of 1929 actually got long term capital at the rate of 1 to 1½ per cent., or little over.

Thirdly, Mr. Hawtrey might also mention the old argument against the monetary explanation of the cycle which points to the long run experience showing a clear-cut coincidence of low interest rates and low prices during the depression. Indeed, the monetary theory is likely to confuse the short run effect of a *change* in the interest rate on the price level and the *continuous* long run relation of the two. In the short run they may go opposite ways; but for a longer period —which means even several years—they usually show the same trend. Very naturally so, since the depression is likely to diminish the demand for capital without necessarily diminishing the supply. As a consequence, we have experienced for some time a combination of extreme ease on the money markets of the world with a severe depression.

Fourthly, one should not answer this with the argument that low money rates cannot continue for 'very long' without generating some upward movement of prices; it would not be difficult to handle such an argument. One would need only to point out that the period which matters is obviously long enough to allow for the whole downward swing of the business cycle.

Fifthly, it is sufficiently known to the student of the monetary theory that the supply of credit is largely a function of the demand for credit. Demand for credit, of course—and this is the last point I dare to mention here—is itself dependent on the price level, which may be influenced either by changes in the volume of circulating media or of goods. So far as the volume of goods is concerned, the monetary explanation obviously does not work. And as to the monetary side, talking in terms of more or less gold is rather misleading, since it does not take into account the velocity of circulation of gold or of bank deposits respectively. Any argument about the influence of gold (or of money) on prices is worthless unless it takes into account the changes in the velocity of circulation, which, on the one side, are to be regarded as mainly dependent on more or less constant customs and, on the other side, as varying with changes in the demand for money.

It is rather difficult to handle fundamental problems of monetary theory in a sweeping way; all I want to do is to emphasize the difficulty involved in any explanation of the *present* trend of prices in terms of gold production or of credit policy. As to the point raised by Mr. Kisch, I think also that a complete knowledge of the future, with a consequent adjustment of business men, would, indeed, prevent the occurrence of the thing which was forecasted. Is it necessary, however, to mention that there is very little danger of our forecasts becoming anything like complete and perfectly reliable? The answer to this is rather easy, and we will probably agree that there is still much to be done in furthering better business policies by more thorough collection of international data on production, prices, trends of business, &c. I do not mean statistical data alone, but also some interchange of views and experiences which may be helpful to build up one's own opinions. Since note banks have at present, so far as deliberate policy goes, practically no influence on prices—they have not shown in the last few years, in my opinion, any deliberate method whatsoever which deserves the name 'policy'—the problem of forecasting prices has almost nothing to do with the Reserve Bank and with similar institutions; the best thing one may say about them is that they are not likely to take the lead in any direction.

Mr. Kisch is an authority on note banks, and he certainly knows much more about the Bank of France than I do. I am not certain whether it is safe to criticize the 'misbehaviour' of this note bank with regard to gold accumulation, since its last yearly report expressly states that it only bought gold when it was offered to the Bank. As a matter of fact, it is the very meaning of the gold standard that some central authority *should* be always ready to buy and to sell gold at prices fixed within narrow limits. I am not aware of any facts which would disprove the contention of the Bank of France; the balance of payments of France ought to have been in the last two years very 'advantageous' in view of reparations and of repatriation of previously exported capital, and consequently it is not surprising at all that gold was flowing to a large extent to the central institution of that country.

Coming back to the question of forecasts it is certainly true, as Mr. Coates pointed out, that a business man who bought his stock at high prices would find little comfort in forecasts which told him that prices would fall and he had to face losses. But would not the same gentleman feel more comfortable if he could have this forecast *before* buying the stocks, or at least before buying some more of them?

The fundamental issue involved in the situation we are dealing with is not so much—in my opinion—the fall of prices, but rather the different behaviour of individual price levels when the general level is falling. Here are also 'practical' problems to be dealt with on the basis of international co-operation; e.g. the problem raised by Mr. Coates: how to handle a situation when falling prices coincide with rigidly fixed or even somewhat rising nominal wages. Investigations into the effects of such situations and schemes of 'rationalization' to meet them could also be subjects of discussion between different national groups of the type of this one. I am convinced that there is quite an amount to be done on such lines; and the moral influence of an international co-operation offering definite results and propositions could be a very useful one too. Chatham House seems to me an ideal centre to start and to lead such a co-operation; and it will not be difficult to secure the collaboration of leading business men and of economists on the Continent, especially in Germany.

MEMORANDUM ON LEGAL PROVISIONS GOVERNING RESERVES OF CENTRAL BANKS[1]

BY C. H. KISCH, C.B.

Annexed to this Memorandum will be found:

A. a summary of the main legal provisions laying down the reserve obligations in the case of some 20 representative central banks;
B. tabular statements exhibiting the relation of reserves to notes and deposits at the end of May, 1930, and at the corresponding date in 1929;
C. a statement constructed on similar lines for some typical central banks showing the situation in May, 1914.

A and B are divided into groups according as the banks are operating

(i) the gold specie or gold bullion standard, *or*
(ii) the gold exchange standard.

The purpose of the meeting to be held on 29th October, 1930, is to examine:

1. the implications of the legal provisions referred to in A above and their application in practice as illustrated in B above; and
2. possible methods of modification *on the assumption* that future supplies of new monetary gold are likely to fall short of requirements on present credit basis unless economies are effected in its use.

The following matters, *inter alia*, will be touched upon.

I. *Legal reserve obligations and their application in practice.*

(1) Distinction between gold bullion and gold specie standards as regards gold reserve requirements.
(2) Distinction between gold $\frac{\text{bullion}}{\text{specie}}$ standard and gold exchange standard as regards gold reserve requirements.
(3) System of fixed fiduciary issue (e.g. Great Britain or Sweden) compared with proportional reserve system (e.g. United States of America, France, Holland).
(4) Tendency for actual reserves held to be largely in excess of legal requirements.
(5) Mal-distribution of gold.

II. *Some suggested modifications of current legal provisions and practice.*

(*a*) Exclusion of return to gold circulation, inherent in legislative enactments of certain countries.

[1] This memorandum was sent to members of the group as an introduction to the paper which Mr. Kisch read on 29th October, 1930, and which is reproduced on p. 141 below.

(*b*) Does operation of gold bullion and gold exchange standards require gold holdings on scale illustrated in numerous cases ?—the Bank of England and the Bank of France. Differing considerations in various cases.

(*c*) The reserve ratio problem. Should basis be notes or notes *plus* deposits ? Some other criterion ? Are modifications needed in law or practice or both ?

(*d*) A matter for international action. Can the Bank for International Settlements help ?

C. K.

22.9.30.

P.S.—It is suggested that members of the group should read the Interim Report of the Gold Delegation of the Financial Committee issued by the League of Nations in September, 1930—Official No. 1930.II.26. (C.375. M.161.1930.II.)

A

SUMMARY OF PROVISIONS GOVERNING STATUTORY RESERVES OF SELECTED CENTRAL BANKS [1]

(1) *Banks operating gold specie or gold bullion standard.*

BANK OF ENGLAND.	Bank is under obligation to buy gold in exchange for notes at £3 17*s*. 9*d*. per ounce standard, and to sell gold bullion at £3 17*s*. 10½*d*. per ounce standard subject to minimum of approximately 400 ounces troy of fine gold.	Fiduciary issue fixed at £260 millions. Balance of notes to be represented by gold coin and gold bullion in Issue Department. Powers are reserved to Treasury and Bank acting together to decrease or increase amount of fiduciary issue, increase in figure, if running for more than two years, requiring Parliamentary sanction.
BANK OF FRANCE.	The Bank has option of cashing notes either in legal tender gold coin or in gold bullion subject to a minimum at present fixed at frs. 215,000.	Notes are issued against cash, discounts or loans, Bank being obliged to maintain minimum reserve in gold bullion or gold coin of 35 per cent. of total of its notes *plus* current accounts.
NATIONAL BANK OF BELGIUM.	Since 1st August, 1930, the Bank has undertaken to buy and sell gold bullion at price based on legal parity of the belga.	The Bank must hold gold or foreign credits payable in gold abroad to the equivalent of 40 per cent. of the amount of its notes and other sight obligations subject to a minimum of 30 per cent. in physical gold.

[1] These provisions applied before the suspension of the Gold Standard by Great Britain, Denmark, Norway, Sweden, Chili, and Hungary, in Sept.-Oct. 1931.

NATIONAL BANK OF DENMARK.	Notes are payable on demand in gold bullion subject to a minimum of kr. 28,000. Under present law above holds until end of 1930, when, unless the provision is extended, Bank will be obliged to cash notes at Head Office in legal tender gold coin.	Metallic reserves to equal 50 per cent. of face value of notes in circulation and assets as prescribed below to be held against remainder. Metallic reserve may consist of: (*a*) legal tender gold coin; (*b*) gold bar or foreign gold coin; (*c*) Bank's non-interest bearing demand balances with Bank of Norway, Swedish Riksbank, and Reichsbank. The stock of legal tender coin shall not amount to less than one-quarter of compulsory metallic reserve, and (*a*) and (*b*) above shall not amount together to less than three-fifths thereof. Balance of note cover consists of specified securities, including bills of exchange and foreign credit balances payable on demand.
BANK OF JAPAN.	Bank notes to be convertible into specie.	Bank may issue convertible bank notes up to yen 120 millions against government securities or approved commercial bills, increase in above amount requiring government approval. Balance of issue to be against gold or silver, not exceeding one-quarter of metallic reserve. (Actually no silver is held in reserve.)
NETHERLANDS BANK.	Notes are payable in specie.	40 per cent. of bank-notes and balances on current account to be covered by gold coin or bullion.
NORGES BANK.	Notes are redeemable in specie.	Notes may be issued to a sum of kr. 250 millions in excess of gold reserve.
SOUTH AFRICAN RESERVE BANK.	Notes are redeemable in specie.	Notes to be secured as to not less than 40 per cent. in gold and as to remainder in commercial paper or trade bills. Bank also to hold gold or specie reserve of at least 40 per cent. of deposits in addition to note reserve provided silver specie may not exceed 20 per cent. of reserve against deposits.

SVERIGES RIKSBANK.	Notes are payable in specie.	Notes may be issued up to 250 million kronor *plus* an amount equal to double the metallic reserve held in Sweden, which must not fall below 150 million kronor. Portion of note issue exceeding metallic reserve must be covered by gold abroad, specified securities, bills of exchange, foreign claims, advances against government securities.
FEDERAL RESERVE BANKS.	Federal Reserve notes redeemable in specie at Treasury or in specie or lawful money at any Federal Reserve Bank.	Federal Reserve Banks to hold (*a*) against deposits—not less than 35 per cent. in gold or lawful money; (*b*) against notes in circulation —not less than 40 per cent. in gold. Balance of note issue to be covered by drafts or bills of exchange of specified character.

(2) *Banks operating gold exchange standard.*

NATIONAL BANK OF AUSTRIA.	Notes to be compulsory legal tender until cash payments are adopted, pending which Bank is not obliged to redeem notes in specie.	Pending adoption of specie payments, total note issue and immediate liabilities less Federal Loan debt to be covered for first five years from 1923 as to 20 per cent. by cash; for next five years 24 per cent.; for next five years 28 per cent.; and thereafter 33⅓ per cent. As cash may be reckoned—notes in stable currencies and bills, including credit balances and cash deposits, expressed in such currencies, payable at leading international centres in Europe and America and vouched for by Banks of unquestioned solvency and otherwise admissible for discount by Bank. Balance of note issue and immediate liabilities in excess of Federal Loan debt to be covered by either cash reserve as defined above, admissible discounts, foreign bills payable in Austria and otherwise admissible to discount, and subsidiary Austrian coins, including silver at intrinsic value.

		After resumption of cash payments, one-third cash cover required and balance to be covered by other assets specified above and Federal Loan debt.
CENTRAL BANK OF CHILE.	Notes are payable to bearer on demand at Head Office at the option of the Bank in (*a*) Chilean gold coin; or (*b*) Gold bars; or (*c*) demand drafts or three days' sight drafts on London or New York.	Gold reserve to be 50 per cent. of outstanding bank-notes plus deposits, and to consist of: (*a*) gold coin and bars in the vaults of the Bank; (*b*) earmarked gold coin and bars in Banks of high standing abroad; (*c*) deposits payable in gold on demand in Banks of high standing in London and New York.
NATIONAL BANK OF CZECHOSLOVAKIA.	It is contemplated that Bank should at a future date be obliged to buy and sell gold on demand in amounts of not less than 12 kilogrammes fine. Meanwhile *de facto* stability of currency is maintained in terms of foreign exchange.	Metallic reserve, originally 20 per cent. of notes in circulation and sight obligations (less State notes), to be increased to 25 per cent. by end of 1929; 30 per cent. by end of 1930; 35 per cent. by end of 1935. Of above reserve at least one-half to be in gold to be computed on total demand liabilities including State Note debt, of which Bank has charge. The reserve includes precious metals, excluding silver, foreign values, drafts on principal international banking centres in Europe and America, or short term claims on Banks of unquestioned standing there. The balance of the reserve to consist of values easily convertible into cash by means of such operations as Bank may carry out under its statutes.
THE REICHSBANK.	On coming into effect of Young Plan, notes to be payable at Bank's option in German gold coin, gold bar, or gold exchange.	Cover against notes to be 40 per cent. gold or short term foreign claims, of which not less than three-quarters shall be gold. Balance of cover to consist of discounts or admissible drafts in addition to note cover. Not less than 40 per cent. of Bank's deposit liabilities are to be represented by demand deposits in Germany or abroad, cheques on other Banks, bills not exceeding 30 days' currency, or day-to-day loans.

Bank of Greece.	The Bank must sell or purchase for immediate delivery, in exchange for local legal tender currency, the legal tender currency of such gold standard countries as may be notified officially. (This obligation is in practice carried out in terms of pounds sterling.)	The Bank to maintain a reserve of not less than 40 per cent. of value of notes in circulation and other demand liabilities. The reserve to include only: (*a*) gold coin or bullion; (*b*) net foreign gold exchange (i.e. balances at credit of Bank at foreign central banks; short term bills of exchange payable in foreign money; treasury bills or similar foreign government obligations maturing within three months *less* any liabilities in foreign exchange).
National Bank of Hungary.	Notes at present are legal tender without obligation to encash. Present statute contemplates that after specie payments are resumed, encashment should be in metal.	Pending introduction of specie payments, total notes in circulation *plus* immediate liabilities *less* amount represented by State debt to be covered by metallic reserve, including foreign currencies and drafts, to the extent of 20 per cent. up to 1929; 24 per cent. up to 1934; 28 per cent. up to 1939; and thereafter 33⅓ per cent. Minimum equivalent to 25 million gold crowns to be held in foreign credits in leading money centres. After resumption of specie payments not less than one-third of notes in circulation *plus* immediate liabilities to be secured by reserve as above.
Banca d'Italia.	Notes redeemable in gold or at option of Bank in currency of foreign countries legally convertible into gold.	A reserve of not less than 40 per cent. of value of notes and other sight liabilities to be held in gold or foreign currencies convertible into gold.
Bank of Poland.	Notes are redeemable at option of Bank in gold coin, gold bullion, or foreign drafts.	Notes and demand obligations to be covered up to minimum of 40 per cent. by: (*a*) gold; (*b*) silver at gold value, not exceeding 5 per cent. of gold holding; (*c*) foreign exchange. Gold holding must represent at least three-quarters of minimum cover.

NATIONAL BANK OF ROUMANIA.	Notes payable at Bank's option either in gold coin, gold bar, or gold exchange.	Reserve in gold or gold exchange to be maintained at minimum equal to 35 per cent. of notes and other sight obligations. Of these, 25 per cent. to be covered by gold in Bank's reserve or deposited abroad.
NATIONAL BANK OF SWITZERLAND.	Notes repayable either in Swiss gold coin, gold bullion, or gold exchange, the alternatives to gold coin being available to Bank so long as leading foreign banks of issue do not pay their notes in gold currency.	40 per cent. of note issue to be covered by gold in Switzerland, balance being covered by gold abroad, foreign claims, or specified advances.

(3) *Bank operating in country where gold standard is in suspense.*

BANK OF SPAIN.	Convertibility at present in suspense.	Note issue not to exceed pesetas 5,000 millions subject to government being able to authorize increase up to pesetas 6,000 millions. On note issue up to pes. 4,000 millions reserve must be held of 45 per cent. metal with a minimum of 40 per cent. gold. On issue in excess of pes. 4,000 millions reserve must be 60 per cent. metal with minimum of 50 per cent. gold.

B

STATISTICS OF CENTRAL BANKS*

(1) *Banks operating gold specie or gold bullion standard.*

(All figures for last report date in May 1929 and 1930.)

	Notes. 1.	*Deposits.* 2	*Total of 1 and 2.* 3.	*Gold.* 4.	*Foreign Exchange.* 5.	*Total of 4 and 5.* 6.	*Ratio of Gold to Notes.* 7.	*Ratio of Gold to Notes and Deposits.* 8.	*Ratio of Gold and Foreign Exchange to Notes and Deposits.* 9.
Bank of England (£ millions).							%	%	%
1929 . .	360·1	115·9	476	163·3[a]	—	163·3	45·3	34·3	—
1930 . .	356·1	108·1	464·2	158·1[a]	—	158·1	44·4	34·1	—
Bank of France (Frs. millions).									
1929 . .	64,316	18,607	82,923	36,596	26,212	62,808	56·9	44·1	75·7
1930 . .	73,078	15,425	88,503	43,809	25,563	69,372	59·9	49·5	78·1
National Bank of Belgium (Blg. millions).									
1929 . .	2,498	102	2,600	963	491	1,454	38·6	37·0	55·9
1930 . .	2,909	144	3,053	1,200	672	1,872	41·3	39·3	61·3
National Bank of Copenhagen (Kr. millions).									
1929 . .	358	29	387	173	94	267	48·3	44·7	69·0
1930 . .	371	30	401	172	107	279	46·4	42·9	69·6
Bank of Japan (Yen millions).									
1929 . .	1,188	941	2,129	1,064	[b]	—	89·6	50·0	—
1930 . .	1,186	753	1,939	871	[b]	—	73·4	44·9	—
Netherlands Bank (Fl. millions).									
1929 . .	797	30	827	437	161	598	54·8	52·8	72·3
1930 . .	804	54	858	432	236	668	53·7	50·3	77·9
Norges Bank (Kr. millions).									
1929 . .	305	112	417	147	46	193	48·2	35·3	46·3
1930 . .	308	83	391	147	35	182	47·8	37·6	46·5
South African Reserve Bank (£ millions).									
1929 . .	9·7	7·6	17·3	8·3	8·2	16·5	85·6	48·0	95·4
1930 . .	9·0	7·1	16·1	7·3	7·4	14·7	81·1	45·3	91·3
Sveriges Riksbank (Kr. millions).									
1929 . .	519	208	727	234	183	417	45·1	32·2	57·4
1930 . .	557	183	740	243	365	608	43·6	32·8	82·1
United States Federal Reserve Banks ($ millions).									
1929 . .	1,672	2,353	4,025	2,813[c]	—	—	168·2	69·9	—
1930 . .	1,489	2,436	3,925	3,038[c]	—	—	204·0	77·4	—

* While every care has been taken in the preparation of these statistics it is impossible to guarantee complete accuracy owing to the different manner of exhibiting their position adopted by various banks.

[a] Including small amount of silver coin.

[b] The Japanese Government is understood to hold substantial balances abroad.

[c] Exclusive of gold held by the United States Treasury. Total gold holding of Federal Reserve Banks and United States Treasury amounted in May 1929 and in May 1930 to $3,931 millions and $4,159 millions respectively.

(2) *Banks operating gold exchange standard.*

(All figures for last report date in May 1929 and 1930.)

	Notes. 1.	*Deposits.* 2.	*Total of 1 and 2.* 3.	*Gold.* 4.	*Foreign Exchange.* 5.	*Total of 4 and 5.* 6.	*Ratio of Gold to Notes.* 7.	*Ratio of Gold to Notes and Deposits.* 8.	*Ratio of Gold and Foreign Exchange to Notes and Deposits.* 9.
National Bank of Austria (Sch. millions).							%	%	%
1929 . .	998	48	1,046	169	195 [a]	364	16·9	16·2	34·8
1930 . .	1,022	39	1,061	169	258 [b]	427	16·5	15·9	40·2
Central Bank of Chile (Pesos millions).									
1929 . .	370	105	475	62	441	503	16·8	13·1	105·9
1930 . .	344	101	445	63	337	400	18·3	14·2	89·9
National Bank of Czechoslovakia (Cz. kr. millions).									
1929 . .	7,183	404	7,587	1,158	1,703	2,861	16·1	15·3	37·7
1930 . .	6,896	491	7,387	1,313	2,052	3,365	19·0	17·8	45·6
Reichsbank (Rm. millions).									
1929 . .	5,104	628	5,732	1,764	299	2,063	34·6	30·8	36·0
1930 . .	5,191	401	5,592	2,591	351	2,942	49·9	46·3	52·6
Bank of Greece (Dr. millions).									
1929 . .	5,415	1,802	7,217	581	3,209*	3,790	10·7	8·1	52·5
1930 . .	4,943	1,460	6,403	603	2,667*	3,270	12·2	9·4	51·1
National Bank of Hungary (Pgo. millions).									
1929 . .	446	190	636	177	19	196	39·7	27·8	30·8
1930 . .	441	31	472	163	19	182	37·0	34·5	38·6
Banca d'Italia (Lire millions).									
1929 . .	16,251	2,053	18,304	5,126	4,911	10,037	31·5	28·0	54·8
1930 . .	15,944	1,846	17,790	5,206	5,037	10,243	32·7	29·3	57·6
Bank of Poland (Zl. millions).									
1929 . .	1,244	532	1,776	624	456 [c]	1,080	50·2	35·1	60·8
1930 . .	1,333	252	1,585	702	270 [d]	972	52·7	44·3	61·3
National Bank of Roumania (Lei millions).									
1929 . .	19,343	8,488	27,831	8,660	2,355 [e]	11,015	44·8	31·1	39·6
1930 . .	18,521	7,345	25,866	9,275	1,425 [f]	10,700	50·1	35·9	41·4
National Bank of Switzerland (Frs. millions).									
1929 . .	872	110†	982	496	261	757	56·9	50·5	77·1
1930 . .	908	169†	1,077	579	376	955	63·8	53·8	88·7

[a] Excluding Sch. 343 millions foreign exchange not forming part of legal cash reserve.
[b] Excluding Sch. 394 millions foreign exchange not forming part of legal cash reserve.
[c] and [d] Excluding respectively Zl. 83 and 110 millions foreign exchange outside legal reserve.
[e] and [f] Excluding respectively Lei 302 and 36 millions foreign exchange outside legal reserve.
* Net.
† Demand deposits.

(3) *Bank operating in country where gold standard is in suspense.*

(All figures for last report date in May 1929 and 1930.)

	Notes. 1.	*Deposits.* 2.	*Total of 1 and 2.* 3.	*Gold.* 4.	*Foreign Exchange.* 5.	*Total of 4 and 5.* 6.	*Ratio of Gold to Notes.* 7.	*Ratio of Gold to Notes and Deposits.* 8.	*Ratio of Gold and Foreign Exchange to Notes and Deposits.* 9.
Bank of Spain (Pes. millions).							%	%	%
1929 . .	4,272	1,104	5,376	2,560	97	2,657	59·9	47·6	49·4[a]
1930 . .	4,391	835	5,226	2,471	34	2,505	56·3	47·3	47·9[a]

[a] Ratio in last three columns calculated at par of exchange. If gold and foreign exchange were valued at current peseta exchange, the ratios would be substantially higher.

C

Statistics of selected central banks for last report date of May, 1914.

(All figures in £ millions.)

	Notes. 1.	*Deposits.* 2.	*Total of 1 and 2.* 3.	*Gold.* 4.	*Foreign Exchange.* 5.	*Total of 4 and 5.* 6.	*Ratio of Gold to Notes.* 7.	*Ratio of Gold to Notes and Deposits.* 8.	*Ratio of Gold and Foreign Exchange to Notes and Deposits.* 9.
							%	%	%
National Bank of Belgium .	39·3	4·5	43·8	10·4	—	—	26·5	23·7	—
National Bank of Copenhagen	8·7	0·2	8·9	4·6	1·3	5·9	52·9	51·7	66·3
Bank of England . .	29·0	60·2	89·2	35·9	—	—	123·8	40·3	—
Bank of France	232·5	41·2	273·7	149·2	—	—	64·2	54·5	—
Reichsbank .	100·7	42·1	142·8	65·7	47·2	112·9	65·2	46·0	79·0
Netherlands Bank . .	26·4	0·4	26·8	13·6	—	—	51·5	50·8	—
Norges Bank .	6·3	0·4	6·7	2·7	2·1	4·8	42·9	40·3	71·6
Bank of Spain .	76·1	18·8	94·9	20·9	—	—	27·5	22·0	—
Sveriges Riksbank . .	12·6	3·9	16·5	5·8	6·2	12·0	46·0	35·1	72·7
National Bank of Switzerland .	11·0	1·4	12·4	6·8	—	—	61·8	54·8	—

Sixth Meeting of the Chatham House Study Group on the International Functions of Gold, 29th October, 1930.

CENTRAL BANK RESERVES[1]

BY C. H. KISCH, C.B.

SIR CHARLES ADDIS, K.C.M.G., in the Chair.

THE CHAIRMAN, SIR CHARLES ADDIS: This meeting to-night marks, I think, the conclusion of the first stage of the inquiry which was begun some months ago. We have, as you know, discussed the method of approach to this question. We have had before us the statistical position with regard to the production of gold in the future. We have discussed at subsequent meetings the possible methods of economizing its use. We have discussed the particular uses which we think it ought to perform. We have now reached a stage when we are prepared to discuss the location of the gold supplies and the reserves of the central banks; and we are very much indebted to Mr. Kisch, who has prepared a memorandum which has been circulated, and which I shall shortly ask him to expound.

As you possibly know, the work of this group has received a wider recognition than we had imagined when we started upon it. The reasons why it has become the subject of public discussion are due largely to an important memorandum issued by Sir Henry Strakosch upon the economic consequences of the change in the value of gold[2]; and also to the Report by the Gold Delegation of the Financial Committee of the League of Nations,[3] which has recently appeared, together with a valuable body of statistics attached to it as an appendix. Not only that, but the subject as a whole has been brought into prominence by various bodies. The Manchester Chamber of Commerce has recently drawn the attention of the Prime Minister to its importance. The Spinners' Federation and the Federation of British Industries have both drawn public attention to it. The Chancellor of the Exchequer, in recent speeches, has more than once referred to its importance. Mr. Graham, the President of the Board of Trade, has given it even wider publicity by his recent speech at Geneva.[4] You may have noticed the remark of Mr. J. H. Thomas

[1] This paper should be read in conjunction with the Memorandum by the same author on p. 131 above.

[2] Strakosch: 'Gold and the Price Level: a memorandum on the economic consequences of changes in the value of gold' (*The Economist,* Supplement III, 5th July, 1930.)

[3] League of Nations: [*First*] *Interim Report of the Gold Delegation of the Financial Committee.* [C. 375. M. 161. 1930. II.] 1930. (Geneva.)

[4] *The Times,* 15th September, 1930.

recently, that there appeared to be a sort of Malthusian doctrine growing up with regard to its application to gold. For all these reasons, the question has received a much wider discussion than takes place within these walls.

Mr. Kisch: It was with mixed feelings that in July last I received a letter from the Secretary of this group asking me to open a discussion on the Gold Reserves of the Central Banks. I felt that it was a privilege to address this meeting, and to look forward to learning about this controversial subject from the discussion, which is generally the most valuable part of these meetings. On the other hand, I was about to take a holiday; and the prospect of being accompanied by the statistics of twenty central banks was not quite so agreeable. However, I took the statistics which form the basis of the memorandum which is in your hands and is the text on which I am going to speak. When this memorandum was prepared, I had not the advantage of knowing what the Committee at Geneva, which was appointed by the League of Nations to deal with the gold question, was going to say. After my memorandum had gone to press, that valuable Report came to hand. To some extent it necessarily goes over ground which I am bound to re-traverse to-night. In the course of what I have to say, I shall have occasion to refer to that document, and to take advantage of the labours of that Committee.

The object of this meeting is not to consider, or to prove, a gold shortage. We are assuming that the world is likely to enter on a period when the gold output will not be commensurate with requirements, if the present basis of credit and price level are to be maintained. Nor are we here to demonstrate on this occasion the result of the misuse of gold, or the alleged misuse of gold, which Sir Henry Strakosch dealt with in his memorandum published a few weeks ago. Our object is the more limited one of examining the gold requirements of central banks under existing statutes; of considering how far those statutory requirements are appropriate to the gold situation; and of examining possible methods of modifying them to meet eventualities. The output of new gold happens at the present time to be divided more or less equally between the non-monetary and monetary demand; that is to say, the social purposes of India and trade are probably absorbing at the present time about half the annual output. Over that demand there is very little opportunity of influence except in so far as a higher price level by making gold appear cheap tends to that extent to encourage the use of gold in the arts. But that is only a small issue in this matter. Of the monetary demand, the larger part,

except in the few cases where the government remains in control of currency, concerns the requirements of the central banks, which, as we all know, are a permanent market for gold at a fixed statutory price. The demands of the banks hinge on the obligations imposed by the statutes regulating their gold holdings. This question of gold economy is in one of its most important aspects a question of the law and practice of central banks. For the convenience of members of this group, I have brought together in summary fashion in this memorandum the principal conditions which govern the gold reserves of central banks; and I must take it that we are familiar with the broad features of the laws of the various countries. In preparing this memorandum, I divided the central banks into two groups: those that were operating the gold specie or gold bullion standard, and those which were operating the gold exchange standard. The purpose of this division was to bring out the difference in practice regarding the standard of gold holding which banks operating these different systems have adopted. When we examine the regulations of those which are operating the gold specie or gold bullion standard, we find that they fall into two groups. There is the group of older banks exemplified by the Bank of England, the Norges Bank, and, with some modification, the Swedish Riksbank, which regulate their gold holding with reference to their note issues alone, and which have fixed fiduciary issues, notes beyond that limit being covered exclusively by gold. We have a second group of cases, represented by some of the older foundations, which have modernized their statutes, such as the Netherlands Bank and the Bank of France. Here the regulations affecting note issue are different. In those cases the law prescribes that a certain percentage, 35 and 40 per cent. respectively in the case of France and the Netherlands, of their notes and deposits combined should be covered by gold. It is perhaps not necessary to go into the reasons for the distinction between these two types; but it goes back to the middle of last century, when the functions of the central banks were not as well understood as they are now, and note issues, being the most palpable evidence of the central banks' activities, were alone taken as a basis for fixing statutory cover. The distinction between the fixed fiduciary issue and the proportional reserve system has not, perhaps, the significance that is sometimes attached to it, because, whatever figure may be fixed for the fiduciary issue, a consciously directed credit policy can produce any desired result at any particular time as regards gold holding and ratio of gold to notes plus deposits. For instance, from the table of ratios for May, 1930, in this memorandum one will find that the actual reserve ratios

of the Bank of Japan and the Norges Bank, which are based on the system of a fixed fiduciary issue, are comparable with those of other banks, such as the Bank of France, the Netherlands Bank, and the Bank of Belgium, which work on the proportional reserve system. However, the distinction between the systems might prove of consequence in the event of the world entering upon a period of expanding money and currency, because, where the fiduciary issue is fixed, an expanding circulation, additions to which will have to be covered by gold, will entail a larger proportionate demand for gold than a system where expansion only requires a percentage gold backing. In such a case, no doubt the pressure of events might force the central banks concerned to raise their fiduciary issue and obtain legal sanction for the purpose. Something of the kind was actually done not very long ago by Sweden. Whatever system is adopted, figures in the tabular statement show that the situation of central banks working on either principle are to be analysed on the same lines, and a comparison between gold situations and gold ratios to notes and deposits must be computed on similar bases if the position is to be properly understood. In this statement the statistics of all the banks have been reduced to a common denominator.

The next point to note is the character of the gold holdings that are prescribed. In some charters the expression 'cash' is used; and sometimes the expression 'metallic reserve' is used. When one comes to look into these phrases, one finds in certain cases that the term may cover not only metal, but also foreign exchange claims in external currencies, or short term securities convertible into gold, often referred to as *devisen*. In some cases, such as France, where the term 'gold' is used, gold metal alone is meant. Sometimes when cash reserves are computed with reference to foreign exchange holdings, it is prescribed that a portion of the cash reserve has to be physical gold. For instance, in the case of Czechoslovakia, a rising gold ratio is prescribed; the reserve ratio has to be raised from 25 to 35 per cent. over a period of half a dozen years and one-half of the rising ratio has to be in gold metal. That point is worth noting, because it is symptomatic of the tendencies of the younger banks to conform as far as they can to the practice of the older banks, and to raise their gold ratios; so that in dealing with the question one has not only to consider the actual ratios given here for banks working an exchange standard,[1] which in some cases are moderate, but one has to regard these ratios as infants which are destined to grow, and are intended to do so. In the case of the Reichsbank, which at the present moment is working

[1] See Table B(2), p. 139 above.

on a gold exchange basis, and no doubt hopes to transfer when it can to the gold bullion basis, one finds over 40 per cent. gold cover against notes. We have often important cases, such as some of the newer creations of the League of Nations, e.g., the Bank of Greece, and the Central Bank of Chile, founded under quite different auspices, where the reserves consist of gold and gold exchange and where no proportion or fixed figure is prescribed for the actual physical gold holdings. In the Table B(2),[1] we have an exhibition of the practical working of the various banks operating the gold exchange standard; and the figures in column 8 can be profitably compared with those in the corresponding column in Table B(1).[2] We shall find that the tendency of the banks in B(1) working the gold specie or gold bullion standard, is to raise their gold ratios to a level comparable with, and in some cases higher than that prevailing in 1914.[3] They tend to hold considerably higher gold ratios than those held by the banks operating the gold exchange standard. For instance, take the case of the Bank of Belgium. When it transferred last August from the gold exchange basis to the gold bullion basis, it had taken steps previously to raise its gold holdings by substantial purchases whenever opportunity offered, thereby showing the strong force of imitation in order to get as close to the standards which have been set up by some of the older foundations. This is an illustration of the dangers which are at present inherent in the situation. Something of the sort is to be observed in the case of Germany. Another case is that of the National Bank of Switzerland. There we have a very high gold ratio, and strong evidence, both in Swiss law and also in the declarations of prominent Swiss financial authorities, as to the direction in which Switzerland is tending, because it is prescribed there that the Swiss Bank shall not pay its notes in gold coin until other leading central banks adopt this policy. There has been a certain amount of gold coinage recently in Switzerland; and a desire to get back to a gold circulation is still apparent in some quarters.

Broadly speaking, we find that the banks that are genuinely working the gold exchange standard, and have no intention of changing over from that standard, are tending to take a decidedly lower gold ratio than those on the gold bullion or gold specie basis. That is a point one wants to emphasize in interpreting these figures. Unfortunately, though that is a good feature, the principles of the gold exchange standard have recently been subjected to a good deal of criticism. I do not associate myself with much that has been said from the point of view that the system is objectionable, as being

[1] p. 139 above. [2] p. 138 above. [3] See Table C, p. 140 above.

inflationary. But it might be a good thing if the gold exchange standard and the principles of its working were further ventilated.

The next point one might refer to is the difference between the gold specie and gold bullion standard in connexion with gold requirements. Quite a number of banks are legally on the gold specie basis at the present time, though in practice the use of gold coin has fallen into desuetude through the greater convenience and advantages of paper. This is perhaps a remarkable thing, considering the reckless abuse of paper money during and after the War. But if the public have the right to demand gold coin in exchange for notes for domestic purposes, obviously the banks must hold larger available stocks of gold in coin form than if gold is only required for settling international balances. The extent of the difference would depend on the habits of the people in each case and the liability of the particular country to credit crises and panics. Even though the actual liability to furnish gold coin may be small, yet if there are facilities for getting it, one may expect there will be a steady dribbling away of gold for hoarding purposes, and in the aggregate considerable amounts may be lost for monetary use. There is always the liability also, in the event of political disturbances or financial emergencies, of considerable withdrawals. In Austria recently, when there was a domestic political crisis, a considerable demand for gold ducats sprang up. These were taken up for hoarding by the public at a small premium of 1 per cent. That is an instance of what may take place. In some countries, where the hoarding of notes takes place, the tendency must be accentuated when a commodity of real value is obtainable instead of paper. We cannot, therefore, set aside the disadvantage of the legal obligation to supply gold coin, even though at a particular moment it may not be seriously operative. My point is, that it is a sign-post pointing in the wrong direction. That is a reason why it should, if possible, be removed. Moreover, another objection to it is, that if the countries which consider themselves developed in monetary matters permit the idea of gold currency in circulation to persist, the countries which are less developed in monetary matters will tend to follow their example, with serious risks to the world gold position.

Reverting again to the figures, and considering them in the light of the earlier part of my memorandum, where the provisions governing the statutory reserves of central banks are summarized, we find that throughout there is a marked tendency for the actual reserve holdings largely to exceed the legal ratios. The most notorious cases are those of France and the United States; but if you look down Table B(1), you will find that there are others running up to the

neighbourhood of 50 per cent. The reason why they do not attract so much notice is that they are relatively small countries, so that the actual quantity of gold taken is of minor consequence. Since this document was prepared, the French have taken a great deal more, and their gold ratio is much higher now than it was. I read in to-night's evening paper that the French have got a reserve of 68 per cent. against their paper currency. Only in the case of the Bank of England and the Swedish Riksbank do we find that the percentage ratios (taking notes and deposits together) are in the neighbourhood of 30. The Bank of England have set an enlightened example in this matter ever since the clearing up of the currency disorder which prevailed in Europe after the War. In their actual conduct of affairs we had last year a striking example to the rest of the world of how the gold bullion standard can be efficiently managed on comparatively modest gold reserves. Not long ago I was talking about this to an eminent foreign banker, who remarked on the 'extraordinarily small' reserves with which the Bank of England managed to do their business.

In the case of the banks that are operating the gold exchange standard, we find also a tendency for the actual reserve holdings very largely to exceed the legal reserves. That is clear from Table B(2), where, taking the last column as the governing one in this case, the reserves run up to very high figures. Take the case of Chile with nearly 100 per cent. cover. Other cases would be Italy and Poland, where the ratios are in the neighbourhood of 60 per cent. in comparison with the legal ratio of 40 per cent. But the significant feature in these cases is that, taking them as a whole, the actual gold percentage—that is, gold metal[1]—is relatively low. Here again we have to remember the force of example and the tendency for the metallic gold proportion to rise. This is rather evident if you compare the figures for 1929 and 1930, where you note a general tendency of the banks to raise their gold holdings.

We cannot expect the gold ratios in the banks covered by Table B(2) to remain at the levels at which they stand now. The evidence is all to the contrary. Germany, Poland, and other banks take additional gold whenever the opportunity offers. There is a serious risk at the present time that the holding of gold is regarded as a hall-mark of respectability; that arguments for limiting either the expansion of the gold bullion standard, or at any rate the holding of gold under the gold bullion standard, will not be appreciated; and that the case for developing and maintaining the gold exchange standard on sound lines will be slurred over.

[1] See Table B(2), column 8, p. 139 above.

The whole question is much complicated by the mal-distribution of gold. I do not think I can do better than refer to the Report of the Gold Delegation of the Financial Committee of the League of Nations which points out, in respect of a number of central banks, that the excess of gold reserve over 33 per cent. standard, which they regard as the average, was at the end of 1928 about $1,800 millions, or about £350 millions.[1] They point out that fifteen countries hold over 90 per cent. of the gold reserves of the world. They finally come to the conclusion, after reciting a number of figures with which I need not trouble you, that in the unlikely event of the countries which now hold reserves of less than 33 per cent. being content with the ratios existing in 1928, a theoretical surplus would exist of mal-distributed gold, which is about equal to the new gold likely to become available for monetary purposes during the next five years. I had some calculations made regarding the statistics in the memorandum in your hands, and it is of interest to note that if the French surplus of over 35 per cent. were re-distributed, the other nineteen banks mentioned would have a gold ratio to the amount of 51 per cent. against notes and deposits. If the surplus of the United States over 40 per cent. were similarly re-distributed, the nineteen banks would have a gold ratio of 55 per cent. If the surplus of both these banks were re-distributed, the eighteen remaining banks would have a ratio of 73 per cent. Obviously the re-distribution of surplus gold of the United States and France, even if it were not carried to anything like the range illustrated by the above hypothetical figures, would enable other countries to bring their proportions up to much higher levels without excessive strain on new production; but it would be sanguine to think that anything like such a re-distribution will occur. Some of the countries with excessive stocks are likely to remain exceedingly tenacious of their surpluses, regarding them apparently as a symbol of national strength.

If the above statement of the position regarding excessive holdings, mal-distribution, and tendency to work at actual reserves far beyond legal requirements, is generally admitted, one may consider ways in which the situation can be modified with the object of promoting gold economy, rather perhaps with a desire to improve future policy than with a hope of rectifying the errors of the past. I have mentioned the desirability of relieving certain central banks, which are under technical or practical obligations to issue gold coin on demand of that particular liability. It would be a good thing if the obsolescence of gold circulation, which has been achieved in various countries,

[1] *Op. cit.*, p. 101.

could be made legally universal amongst advanced nations, and the gold bullion standard accepted as the modern substitute for the gold specie standard. This would have the effect of discouraging less advanced countries from pursuing dangerous phantoms.

A more important question is the holding of gold under the gold bullion and gold exchange standard. The facts of the past and the records of the present show that the gold exchange standard can be admirably maintained with little or no gold. There are some cases of countries which hold virtually no gold. Chile holds very little. Siam, I believe, holds none. The Indian Government holds a certain amount of gold, normally more or less immobile. It is clear that the gold exchange standard can work very well with little gold. It must be understood that central banks, by a judicious handling of their exchange on an appropriate basis of credit and currency control, can restrict the movements of gold to a minimum, if they so desire. The question of the gold holding under the gold bullion standard appears to me to be one of the crucial features of the situation. With the increased development of the gold bullion standard the world has departed some considerable way from the teaching of Genoa; and, if this change over from gold exchange to gold bullion standard is to be regarded as permanent, it makes it all the more important to consider how far the gold bullion standard requires the very large holdings of gold that these statistics illustrate. The Bank of England has shown that it can satisfactorily carry on with much less than half the gold held by France, and can do so without having to exert excessive pressure, even at times of serious difficulty.

The question of the French gold holding has been discussed a great deal lately, but I have not found any satisfactory explanation of what is going on, other than the will to acquire gold. One cannot believe—it is contrary to reason—that a currency authority endowed with the powers of control of currency and credit cannot, provided that its powers are unhampered, so regulate its affairs as to limit the gold that comes into the country. The important thing to realize is that if the country is on a gold bullion standard it does not necessarily require to hold a great bulk of its reserve in physical gold, provided it is prepared to discharge effectively its function as controller of credit. More and more one sees the central banks defending their gold reserve by reliance on their gold exchange holdings, and by effective action achieving the same results as they would achieve if their gold exchange holdings took the form of gold. It seems to me that one of the most important things in the future is to consider the foundations of the gold bullion standard and its working on a lower scale of gold holding.

When you come to the remedies on the legal side, as distinguished from the practical side which I have just been discussing, we have the recommendations of the League Committee that the legal reserve ratios should be cut down; and that, in consequence of that cutting down, or as a sequel to that cutting down, the actual reserve holding should be reduced also to lower proportions. There would be no point in cutting down the legal ratios if the credit policy were so directed as to build the actual ratios up to very much higher levels. This recommendation seems to me to be in all respects sound; and possibly it is the most hopeful thing at the present time, if the countries can be induced to accept it. There is no reason to think that banks which cut down would find themselves in a less secure position, with a smaller ratio than they have at present, provided that they acted together in reducing their conventional standard of cover. It would be unreasonable to expect some banks to place themselves under self-denying ordinances, in regard to gold, that are rejected by others.

One or two reflections occur to me as bearing on this line of argument, and I wish to mention these as possibly containing some suggestions which at a later time may prove useful. We know that in a country like this there is a certain relation between the total deposits of the commercial banks and the cash reserve of the Bank of England. The proportion of credit instruments and deposits of the British banking system to the gold holding of the Bank of England is somewhat in the neighbourhood of 100 to 6—that is to say, 16 to 1. If, therefore, the conventional practices of the commercial banks remained unchanged, one would say that the loss of one unit from the gold reserves of the central bank would, if it were allowed to have its full effect, in due course lead to a reduction of sixteen units in the deposit currency of the country. Taking the total deposit currency of the country as somewhere in the neighbourhood of £2,500 millions, one would come to the conclusion that if the Bank of England lost £30 millions of its gold reserve, the reduction in the deposit currency of the country would ultimately be somewhere in the neighbourhood of £500 millions, if the gold losses were allowed to have their full effect. Such a deflation, of course, would indicate a terrific crisis, and the figures are to be treated as illustrative. But the fact that that would be the reaction of a gold loss comparatively moderate in relation to the total holdings of some of the large central banks, and that the deflation is a thing which is not to be tolerated, does seem to show that if central banking business throughout the world were well conducted, a very much smaller gold holding is capable of maintaining the fabric of credit than would be suggested by the reserves of various

central banks to-day. Naturally one has to allow an adequate reserve for uncertainties and as a margin for manœuvre; but, even making all allowance for that, there seems to be strong ground for thinking that the present scale of reserves is higher than is required for thoroughly sound management.

The origin of the ratios which figure in the central bank charters is somewhat obscure. They do not seem to be based on anything other than the practice of the Bank of England before Peel's Act of 1844, when it was the practice of the bank to maintain a 33 per cent. cash reserve against its notes and deposits. That basis seems to have been adopted with certain qualifications when the original law of the Reichsbank was made; and the prescription of a ratio seems to have been rather the vogue in the middle part of last century. Various banks operating in the colonies with note-issuing powers were compelled to keep 33 per cent. ratios of bullion against their notes; but there does not seem to be any scientific basis for the ratios in modern charters, which it is now suggested might be modified.

If the central banks were prepared to co-operate, they might perhaps attempt to assess their gold requirements on more scientific lines by considering the maximum adverse balance of payments which they might have to meet at any particular period, allowing for margins of error, and providing an abundant latitude for safety. Having worked that out they would arrive at the maximum contractibility of the currency circulation, and might proceed to compute the standard requirement for the reserves of the central bank. In that way it would be possible to arrive at desirable gold plus gold exchange holdings on more scientific lines than has been done hitherto. Then one could settle what amount of this holding of international reserves should be in gold, while the balance would be in gold exchange. I suppose that in an ideal world of countries living in harmony with one another and engaged in commercial and financial relations, but still maintaining independent currencies on a gold basis roughly on present lines, each currency authority would endeavour to size up the maximum amount of a possible adverse balance of payments and would arrange to hold adequate quantities of one another's currencies or claims thereon to cover all possible liabilities with an abundant margin, while in so far as gold was held, this would be dictated by available supplies and by a desire not to cause inconvenience to themselves or others in the co-operative task of conducting world credit policy with a view to the maximum stability in the broadest sense of the term. We are a long way from the conditions to which I have just referred, but should some of the more alarming anticipations

regarding the decline in gold production be realized, something more definite and scientific may hereafter be necessary than is given by an arbitrary, though reduced, scheme of gold ratios, especially if we enter on a period of expanding money and credit to keep pace with progressive trade and growing population.

Of course, any action for gold economy presupposes a will to economize gold: a sound disposition of assets held in foreign currencies would flank the gold held by the central banks working the gold bullion standard. Then there must be confidence as to the safety of foreign currencies and international assets held outside the country itself. There is need for a lead from the principal central banks in this direction. It would be quite a good thing if every central bank showed its foreign exchange holdings. Many of them do, but there are still some distinguished exceptions which no doubt hold foreign exchange, but do not show these assets separately. If those banks showed them separately, it would be an indication that the most venerable banks, working the gold bullion standard, regarded their holdings of gold exchange as an important factor in their policy, of which it was desirable to exhibit the movements every week in their returns.

In any scheme for regulating the gold requirements of a country on the lines sketched above, each country would naturally have to consider its own circumstances. Countries would have to take account of the nature of their trade, their liability to seasonal upsets, the character of their deposits, whether they were liable to sudden withdrawal, whether they were holding large amounts of temporary foreign money liable to transfer; and, what is perhaps as important as anything, the effectiveness of their central banking policy. Obviously a country which has an effective central banking policy can, *ceteris paribus*, conduct its operations on a lower reserve basis than a country which has not. That seems to me one of the features which is perhaps not sufficiently recognized in dealing with the gold centre question. It so happens that the countries which are international gold centres have the most effective central banking mechanism and thus wield a potent means of influencing money movements. To that extent, though they are gold centres, they do not require the amount of gold which at first sight might seem necessary.

The question of the security of foreign exchange holdings has taken on a new aspect since the creation of the Bank for International Settlements. The Bank for International Settlements has been given special privileges in its charter: its deposits are immune from seizure in time of peace and war, or from damage by restriction or prohibition of currency export or import. It would seem that the Bank for Inter-

national Settlements might be a suitable custodian of the currency reserves of the central banks, as giving them a special measure of security guaranteed by what is equivalent to an international treaty. On the theoretical side, the Bank for International Settlements has the advantage of being an international organ; and it is, therefore, in a rather peculiarly favourable position for initiating private and confidential discussions on such questions as gold and the possibilities of gold economy. If it can foster international confidence, and if the countries can be induced to co-operate for the purpose of securing careful consideration of this difficult question, we may find in the future that central banks which are now bent on amassing large gold holdings may be prepared to rely to an increased extent on assets held on their behalf by the Bank for International Settlements. This postulates, I admit, a certain degree of moral progress which the world apparently has not yet achieved; but one may look forward to the day in which, if I may be allowed a quotation: 'Silver and gold are not the only coin; virtue, too, passes current over all the world.'

Discussion

THE CHAIRMAN, SIR CHARLES ADDIS: The meeting is now open for discussion. I do not want to intervene between you and the lecturer, except to invite discussion on a point which rather troubled me in the course of his remarks. He seems to assume a power in the central banks to correct this mal-distribution of gold, which in existing circumstances I am rather doubtful that they possess. The question, to my mind, is how far the mal-distribution of gold is conscious or automatic on the part of the central banks. He referred to central banks which were bent on acquiring gold, many of them largely in excess of their legal ratio. I just suggest that their power in this respect may be less than is sometimes supposed. There are various causes which have recently come into play to account for this. One is the enormously increased power of the banks outside the central banks. Their resources in many cases are very much larger than those of the central banks, for example, and they are able to exercise power in the market which, unless there is co-operation, may altogether defeat the purpose of the central bank in its monetary policy. Then I think you will have to take into account the power of the central bank with regard to its ability to supply real demand from industry for credit on the one hand or for foreign investment on the other. If at a time like the present, one or the other or both may be lacking, I suggest that the power of the central bank to restrain the inflow of gold may be very

much diminished, and in one or two cases that I have in mind it may be inoperative. That would be aggravated very much by the condition of these countries with regard to their balance of payments. But all those three causes are in operation to-day in a way which is foreign to us in many respects. It is a novel condition. Although I am appearing to differ a little from the attitude taken up by the speaker in regard to them, I entirely concur in his conclusion, which I take to be that if I am right in this suggestion that the power of the central bank is very limited except within its own market, the obvious remedy is co-operation of the central banks, in order to correct an evil which is world-wide in its extent. That is the difficulty which occurred to me as I listened, and I now throw open the matter to discussion.

MR. WALTON NEWBOLD: Mr. Chairman, I was very glad that you passed the comments that you did upon the probable limitations of the powers of the central banks. I have felt to-night, and on other occasions when this group has been meeting and discussing these matters, that there is a tendency to isolate the central bank, not merely from banking as a whole, but from the economic system of each country out of which it really grows, and that when we are rather critical of the methods that are resorted to by some of these central banks we do not take sufficiently into consideration the fact of the influence upon them of public opinion and the various economic factors in the different countries.

It is very easy to look at this problem from the standpoint of a specialist engaged in central banking, but, much as we desire to adjust the world to our liking—and I am very keen indeed upon the development of the Bank for International Settlements, because I can see no other way but by such centralization of the gold reserves, and the reduction of the proportions of gold holdings in relation to note issue, whereby we can get any real expansion of credit and better conditions internationally—one must face the realities of the situation. Travelling about Europe I had the impression that the case put forward by Sir Henry Strakosch in his memorandum[1] is not so widely supported as perhaps one is inclined to think. The trouble seems to me to be that the nations at the present time are tending so to drift apart in their economic nationalism that it becomes practically impossible to apply the methods which we would like to see applied. As long as this economic nationalism continues and is the foundation, as it is, of policy, I see no chance of the various central banks being

[1] *Op. cit.*

allowed by public opinion in their respective countries to keep a lower proportion than they are doing. I do not think that any amount of what one may call international propaganda to that effect is going to have very much influence upon the people, who, after all, will have the last word in the control of their national banks. The Bank for International Settlements is quite definitely up against this snag, and all central banks must be. There is certainly a danger inherent in this movement to the sovereign independence of States, and any attempt to internationalize further is going to inflame still more the sentiment that is felt against the tendency to internationalism, and what may be called supernationalism. I speak as an internationalist myself, and for that reason I am not blind to what is going on.

As far as France's imports of gold are concerned, they do not seem to me to be so mysterious. After all, France has had a very unfortunate experience in the last fifty years in her long term foreign investments. We need not enter into the cause of the successive losses which they have had in practically every continent, but the fact remains that they have lost money, and that, having placed very considerable balances abroad, watching the stock markets falling as they are at the present time, the Frenchman naturally says: 'Whilst it is true that if I exchange these balances for gold and bring back gold and put it in the vaults of the Bank of France it is not going to increase in value, at the same time it is not going to diminish, and I am going to be safe in having it there.' I can see no likelihood of any great modification in the standpoint of the French so long as the international money market remains as it is and so long as the Young Loan shows signs of falling. I do not want to be too pessimistic, but at the same time I think that we should have a breath of practical reality through this discussion.

The Hon. R. H. Brand: I would like to thank Mr. Kisch first of all for a very interesting paper, which should have stimulated us a great deal. One thought which passed through my mind while he was speaking was this. While the world in general has a certain principle upon which each country keeps gold—that is, in proportion to its note issue—sometimes note issue alone, sometimes central bank deposits in addition, general opinion seems quite uncertain as to the real uses for which gold is required. Unless the world decides under modern conditions what it wants gold for, we shall find it difficult to make much progress. I suppose originally, when gold was circulating and notes were circulating too, gold was kept in proportion to notes because it was supposed that any holder of notes had a right at any

time to exchange his notes for gold, and by doing so the currency was not decreased, but the gold circulation was increased, and the note-holder was protected. Notes were a comparatively new thing, and it was supposed that the note-holder had at any time the right to get something which he knew was of a certain definite value. If we are in future to have no gold circulation, if all the chief countries of the world determine not to have any gold circulation, is there any reason at all for the principle of holding gold in a certain proportion to a note issue? The one thing which it is certain cannot happen in future is that the note-holder can go and exchange his notes for gold coins as he used to do. As Mr. Kisch says, some countries in the world still have a feeling that they may return to gold circulation, and in a good many of the central banks the note-holder has still the right to ask for coin as an alternative to bar gold. I think, for instance, in the case of Chile, the right of the note-holder is to have coin or foreign exchange or bar gold. If the note-holder has not a right to gold coin, then presumably gold in future is useful merely for settling foreign balances, and the value of the national unit will be maintained, not by exchanging notes into gold, but by maintaining the exchange through the power and ability of the central bank to ship gold whenever it is necessary and during the period in which the central bank will be putting into order the balance of payments of the country in question. If that is so, probably most countries, certainly countries like the United States and France, could do with far less holdings of gold than they have at present, whereas some countries might require a larger holding. I think that is the direction in which the world is tending—namely, to get away from gold holding as a definite proportion of the note issue, and gradually—it will only be very gradually—developing a technique under which, by co-operation between all the central banks, the amount of gold which each country will hold will be determined by other considerations. That is a very slow process, but I think it would be useful to stress that that is the direction in which the world should go, rather than hold gold as a definite proportion of the note issue.

Then I would like to refer to what Sir Charles Addis said. I think it is perfectly true—I suppose he had in mind the French situation—that under the conditions under which the Bank of France works, and under the laws of France, it may be impossible for the Bank of France at this moment to do anything but sit down and see its gold accumulate. It may be that we shall see it going on accumulating for a good many months. If that is so, and if that be the condition in other countries as well—that any country with a favourable balance of

trade has simply to sit down and collect gold from all the rest of the world—it is not likely that the gold standard will work satisfactorily. It seems to me, in the case of the Bank of France, that it is a question of its altering its policy in the way of obtaining greater legal powers to have an open market policy, so that the gold may be used as a basis of credit to a greater extent than it is used now. Fundamental conditions in France might then in all probability be so altered that after a short period the whole situation would change sufficiently for gold to leave France, and certainly for gold not necessarily to go on being accumulated there. It is not anything fundamental in the central bank situation which makes it impossible for France to do that at the present moment. It is a question much more of the peculiar French conditions, partly in the money market and partly in the legislation of France.

Mr. Hawtrey: I should like to support what Mr. Brand has just said about the French position—that is to say, that the accumulation of gold in France is due to certain statutory limitations on the freedom of the Bank of France. It is a mistake to suppose that the statutory proportion is necessarily the determining factor as to gold holdings. The example of France shows that it is not so. I think also it is a mistake to suppose that the accumulation of gold is due to the action of individuals who want to hold a particular kind of asset. The asset that the individual holds is not gold at all, but it is something expressed in paper francs. It is not a better investment to the holder than the equivalent of French 5 per cent. Rentes would be. The trouble with France, as Mr. Brand pointed out, is that they are precluded from open-market operations. The only assets that they are free to hold against their notes practically are eligible bills and advances for their own internal banking system, the foreign exchange holdings which they have, and gold. They are precluded from buying any additional foreign exchange. They lost their power of buying foreign exchange in June, 1928. As to eligible bills, the power of the Bank of France to rediscount bills is hedged round with rather elaborate conditions, as likewise is its power of making advances on securities. Also the supply of bills eligible for rediscounting is limited, and it cannot be suddenly or largely increased. The result is that if at any time the supply of currency in France is insufficient for the needs of the inhabitants, it can only be increased by the importation of gold, just as if they were using gold coin instead of paper.

I remember pointing out when the French stabilization first began in April, 1927, that the then note circulation of 52 milliards was

extremely inadequate. Taking the estimates of the pre-War circulation of notes, gold and silver in France—the total monetary circulation in France before the War—it was quite clear that with the price level adopted for stabilization they would need something like 70 milliards of notes in order to maintain monetary equilibrium. If people are short of currency, that means that they will economize their expenditure, including their expenditure on investments, until their cash balances have mounted up to a convenient total. When they do that that means that their purchases of goods, including their purchases of imports, fall off. Then you get a favourable balance of trade. The favourable balance of trade is the effect of a shortage of currency. It is a process by which the desire of individuals to hold a greater quantity of currency is translated into an import of gold—the only instrument by which their desire can be satisfied. The chain of causation runs through restriction of expenditure, restriction of imports, a favourable balance of trade, importation of gold, sale of gold to the Bank of France against notes, and thus an ultimate increase of currency. The whole of that process could be quite easily interfered with if the French legislature so desired and the Bank of France took action accordingly—simply by buying securities—say, French Rentes—and issuing notes against them. The gap that had to be filled by the acquisition of foreign exchange and gold in the early stages of stabilization was caused by the paying off of the debt by the government to the Bank of France. A gap of something like 40 milliards was made in the assets of the Bank of France at that time, and at the same time, as I have pointed out, the note issue was short of requirements. The importation of gold and the acquisition of foreign exchange have been required to fill that gap.

There is another point about the French position which is perhaps worth mentioning—it has come up, I think, in these discussions before —and that is that not only does the note issue of the Bank of France have to be covered by assets of the prescribed character, but the deposits, both private deposits and the deposits of the government, likewise have to be covered. The French are now trying to get on without a floating debt, or practically without a floating debt. The result is that every now and then they would accumulate sums of £100 or £120 millions sterling in the form of idle government balances in the Bank of France. Practically every penny of that has to be covered by gold bullion. Those are the explanations, as I see them, of the accumulation of gold by the Bank of France. It is perfectly clear that, whatever the disabilities may be, the central banks suffer under other conditions, in the particular case of France the accumulation

of gold is something that is within human discretion. There is no obstacle whatever in the way of the French Parliament and the Bank of France between them allowing the acquisition of French Rentes or the increased accumulation of foreign exchange, and of other devices for enabling the note issue of the Bank of France to be maintained at the required level without so much of it being covered by gold. With regard to the other central banks, I think, in the first place, so long as the central bank has the power to buy foreign exchange, it can avoid receiving gold. All it has to do is to buy foreign exchange at a price slightly more favourable to the seller than the price at which you could buy gold. Then the foreign exchange comes in automatically, and no gold comes. All the central banks, if they were given the necessary statutory powers, could do that, so that all the movements of balances from country to country and the disturbance arising from changes in the balance of payments could be dealt with without the transference of any gold whatever. That is an extreme measure, which it is not absolutely essential to aim at. For one thing, new gold from the mines may come reasonably to be distributed amongst the various central banks. The central banks might also be unwilling to buy foreign exchange of a particular country which may be exporting gold because it is indulging in an inflationary policy. Various qualifications of that kind would have to be laid down, but I think it is important to observe that without any manipulation of discount rates the movements of gold can be prevented by an open-market policy on the part of the central banks. Discount rates are required as a factor in the credit expansion or credit contraction of the world as a whole, and no doubt sometimes in particular countries they have to diverge from the rates in neighbouring countries in order to preserve equilibrium. My point is that, even without relying on the discount rates, the central banks have power, if they are only given the necessary statutory powers, to prevent the movement of gold. Even when movements of gold are relied upon as the ordinary corrective for the disturbance of the balance of payments, still the extent of the loss of gold that any particular country has to bear is really limited.

To explain that at length would carry me too far, but one of the points I have in mind is this. Every country—or nearly every country—will, if subjected to more than certain pressure, suspend gold payments rather than subject itself to that degree of credit contraction which is necessary to restore its exchanges. It is no use for it to hold more gold than it is prepared to lose under those conditions. It is not the shortage of gold that leads countries to suspend gold payments: it is the belief that the necessary monetary contraction or

credit contraction is greater than their economic system can stand. So that the gold reserves held by some of these countries in South America, or by Australia in the past, have really been greater than was necessary, because those countries suspended gold payments when they lost comparatively little of their gold. They did not suspend gold payments because they were short of gold, but because the maintenance of gold payments would put an undue strain on their economic system.

It ought to be quite possible, if you once get the representatives of the central banks round a table and ready to consider the question of the distribution of gold as an international question, to arrive at a settlement. The sort of principles that I think ought to be followed would be these. Every representative should be told to write down on a sheet of paper exactly how much gold he thinks his country ought to hold. He would be told that when the results are totalled up he cannot rely on getting more or on having to hold less than he has written down. At that stage they do not know whether the total is going to be above or below the existing supply. If they write down too much, they may be in danger of being burdened with a greater total of idle assets than they would care to have, or if they write down too little, they might find themselves short. Having once got the totals written down and added up, then it could be discovered whether the numbers have to be scaled up, or scaled down. If they have to be scaled down, the chances are that a considerable portion of the people concerned would be willing voluntarily to reduce their applications below what was at any rate the maximum that they were prepared to hold. If, on the other hand, there is surplus gold to go round, others will probably be willing to increase their requirements. So that a great deal of settlement could be made quite voluntarily. It would have the advantage of impressing upon the representatives concerned that gold is a burden. If you have to make such a choice, the fact that it is a burden and costs a lot of money will perhaps make a greater impression than if the gold has to be scrambled for as it is at present.

MR. W. J. HINTON: There are one or two banks which have the power of holding cover in the form of silver specie at gold value. This applies apparently in the case of the Bank of Japan, the South African Reserve Bank, the National Bank of Austria, and in the case of the Bank of Spain on their excess issue. Does Mr. Kisch think that there is any possibility that we may, in case of need, supplement our gold reserves with silver by some extension of those provisions? I believe such provisions are not very extensively availed of at present,

but may not they become important in the event of a shortage such as we have to contemplate?

Mr. D. H. Robertson: Mr. Brand and Mr. Hawtrey between them have answered most of the questions which I was burning to ask about France. There are one or two questions I want to ask about America. In the first place, in these extremely valuable figures (which are particularly a godsend to anybody whose business it is to teach economics)—I do not say this to cast any reflection—the essential proportion is perhaps not mentioned. Mr. Kisch did mention it in the case of Great Britain in the course of his remarks—namely, the proportion of gold reserve to the total outstanding bank deposits. I think he said it was something like 6 per cent., or 1 in 16. Has he a similar figure for the United States? I have not got it in my head, but my impression is it is something like 1 in 10—£800 millions of gold to £8,000 millions of bank deposits. I feel very clear, whatever it is, that it puts the American position in a rather less unfavourable light than the figures which we are accustomed to use—the figures of the Federal Reserve Banks' proportion of gold to their liabilities. That arises from two facts—from the fact that the Bank of England has a considerable number of other liabilities which are not used as a basis of credit by the other banks. It has £110 millions deposits. Only £65 millions are bankers' deposits. Then there is the other fact that the United States have a different practice about the proportion of the member banks' liabilities to their reserves. Their law differs from the English banking practice in showing a lower proportion against time than against demand deposits. I think that must be remembered to the credit of the United States when we are inclined to accuse them of being gold hogs.

The other point I want information about is the statement which is constantly made by American authorities that the real obstacle to the re-distribution of gold is not their 40 per cent. law—it clearly is not that—but the remaining provisions of the Act which prescribe the nature of the assets which the Federal Reserve Bank has to hold against that part of their note issue which is not covered by gold. They say, in fact, they are as strictly bound by the law as if they had a fixed fiduciary issue, because they have to hold eligible paper against the remainder of their notes, and there simply is not enough eligible paper about to enable them to increase their note issue or to dispense with the gold which they at present hold against it. I should like the comments of Mr. Kisch and anybody else upon that fact. Even if it is true, it only means that an alteration of the

law is required, just as in the case of France an alteration of the law is required to enable open-market dealings; but it *does* mean that these reserve proportions do not tell the whole story, and other changes must be made besides a mere agreement to reduce this apparently excessive proportion. Behind that I have an extreme scepticism whether, in the present condition of affairs, any alteration of laws is going to make it any easier to effect this re-distribution of gold. I think that the Federal Reserve authorities have done their best, but when they try to inflate and to raise prices and to lose gold and to make things easy for us, all that happens is that they create a Stock Exchange boom which lays up more trouble in the future. I think the matter of producing a rise in world prices is much more difficult than one is often told by those who lay the whole blame upon under-production, or alleged mal-distribution, of gold.

Mr. Brand and Mr. Hawtrey both led us into a fascinating field when they asked us to sit down and consider what we really want gold for, and when Mr. Hawtrey suggested that the central bankers of the world should sit round a table and ask themselves what they really wanted gold for. I am not sure whether that would not be really a very dangerous procedure. I believe if we really all began asking each other what we wanted gold for, the gold standard would come to an end within five minutes.

DR. COATES: I do not know whether Mr. Kisch saw a recent article in the Bulletin issued by the National City Bank,[1] in which they claimed that the gold in the United States had been given its full effect. The figures in this article show that in 1914 the monetary gold stock in the United States was $1,891 millions. It had risen by 1930 to $4,534 millions—that is, an increase of 129 per cent., whereas loans, discounts, and investments of all banks had risen from 20·8 thousand millions to 57·4 thousand millions, or an increase of 181 per cent. They claim that with $2,633 millions increase in the country's gold stock additional bank credit has been created to the extent of 37·7 thousand millions or 15·49 dollars of bank credit to each additional dollar of gold.

Apart from that, I have listened with fascinated interest to all that has been said to-night, but with some disappointment that that touch of practicality which my friend on the right appealed for has not yet appeared. We are told by Mr. Kisch that many of the central banks have ratios far higher than those which they are legally required to keep. That tends to support the plea in this particular article that

[1] National City Bank of New York: *Bulletin*, Sept. 1930, p. 145.

we are not suffering, at present at any rate, from a shortage of gold, but those of us who are connected in any way with business, either by holding shares or by working in it, do know that we are suffering throughout the world from a very great depression of prices. Believing, as most of us do, I suppose, in the basic theory of the Interim Report of the Gold Delegation of the Financial Committee of the League of Nations, that there is a direct connexion between the price level and the volume of purchasing power, and a further link between the volume of purchasing power and the volume of gold, we ask ourselves, if the central banks decide that their powers are as great as Mr. Hawtrey suggests, and as you, Mr. Chairman, doubt, how they can help us when the world falls into one of these sliding depressions of prices? I have read a great deal on this subject—I have not read all there is to read, and no one can, I suppose—but it is difficult to find anywhere a detailed exposition of the technique which any central bank, or the central banks taken altogether and acting through the Bank for International Settlements, or by any other means, are going to adopt when the supplies of the great staple commodities of international trade begin for some reason or other to increase in volume. This article to which I have referred provides me with a list of some of the commodities which appear to have shown that tendency: wheat, coffee, cocoa, rubber, silk, rayon, wool, cotton, vegetable oils, tin, zinc, print paper, nitrates, petroleum, and other products. Take the case of one country whose staple product shows a large increase in production. Brazil, for instance, was one of the first countries which began to produce an excess volume of coffee. Imagine the central bank representatives sitting round a table and saying what are they going to do about it. I do not know, but I should value some real exposition on how the central banks are going to act, possibly not when one commodity starts to increase in value, but when they see two, three, or four—what are they going to do? We learn from Mr. Hawtrey's text-books that the central banks have a considerable power of stimulating trade through low rates of interest. At the present time, that seems to be failing to act—no one knows quite why, I think. You can borrow money for short periods at very low rates of interest, but I know of no company of any size which has had sufficient confidence to go to the market for five or ten millions and been able to raise that sum at any permanent rate which is very closely allied to those very low rates. I do not propose to detain the meeting with a further development of the argument, because as a humble student of these very difficult matters, I only seek some enlightenment and some practical exposition of the methods by which

M 2

the very difficult situation which is afflicting the whole world to-day in diminished trade, internal and external, diminished exports and increasing unemployment is, if not to be solved, at any rate ameliorated.

COMMANDER KING-HALL: I would like to make this one observation from a non-specialist point of view. It is the psychological part of this matter which interests me, and one observation of Mr. Hawtrey struck me as raising a very interesting question. He pointed out that there was no obstacle to the French Parliament and the Bank of France causing certain changes to take place in this policy. It seems to me there must be an obstacle, and that obstacle is public opinion—that is the real root of the matter, even presuming they would agree that the process which he describes would ameliorate the situation. When I was in Paris I spoke to M. André Siegfried and M. Charles Rist on that point and endeavoured, so far as I was capable of doing so, to ask them why certain changes were not made in France which, according to some of those to whom I have listened in this country, would ameliorate the situation. There was no doubt at all left in my mind after talking to those two gentlemen what the obstacle was so far as they were concerned. I was left with the impression that what I thought might be good for Great Britain and the world might not in their opinion be good for France and the world.

MR. KISCH: I am much obliged to you for the attention with which you have followed my remarks. I will refer briefly to some of the points that have been raised. Most of the questions seem to resolve themselves into two factors—the power and the will. We have had various views expressed this evening on the power of the central banks to control the situation. Our Chairman, with his great knowledge of the British and Continental systems, is inclined to doubt the power of the central bank to do as much as has been claimed for it by those who have not been central bankers. Mr. Hawtrey, on the other hand, has expressed the opinion that, given the necessary legal facilities and powers, the central bank can, by judicious manipulation of exchanges, control gold movements. To explore this question further is impossible to-night, but I feel that, subject to there being no legal obstacles, there is force in what Mr. Hawtrey says, but there again it depends very largely on the will. I do not know how far recent French policy, which has been referred to from different points of view, is really based on the absence of a will to inhibit gold imports. I cannot believe that Great Britain, which has shown itself such a good internationalist since the War, would, if it had been inhibited by legal difficulties in

carrying out what it regarded as a good international policy and a good national policy also (because we have to regard the two as not being inconsistent), have refrained from seeking the necessary powers. That again fits in with what Mr. Newbold said in his rather depressing remarks about the absence of any true economic internationalism. I am afraid that is so, but one hopes that the activities of the League of Nations and other such bodies—even this gold group may contribute a bit—may help to dispel prejudice. If that is so, one may find that the line of thought which Mr. Brand developed, and with which I have much sympathy, may have some effect. Mr. Brand said that he thought that the ratios were perhaps misplaced features of the existing charters. Probably after the War when the countries had misbehaved in currency matters something of the kind was necessary, but in future developments, coming perhaps after effect has been given to the suggestions of the Gold Delegation of the Financial Committee of the League of Nations, we may conceivably come to a time when gold ratios or gold plus gold exchange ratios do not figure in charters, but some absolute figure for gold is adopted as a minimum holding basis, while there would be no limit to the gold exchange holding. If things develop on these lines, there might be some scope for Mr. Hawtrey's game of gold poker, but I think it will take a long time before we get the central bankers round the green table for that purpose.

In the article to which Mr. Coates referred there is also a figure given for the American ratio of gold reserves to total liabilities which Mr. Robertson asked for. It is 6·84 per cent. on the 30th June, 1929.

Mr. Robertson: That is about the same as the British.

Mr. Kisch: It is somewhat higher than the British, which is rather under 6, as far as I can make out, while the American is over 6—nearly 7.

The problem of the holding of international assets outside gold has now become difficult with the very low rates obtainable on eligible bills and short term gilt-edged security. I understand that some central banks are now seeking to hold their *devisen* in short term loans on the market. If this is so, it introduces certain features different from those that were contemplated by the orthodox gold exchange standard. Possibly practices of that sort may tend to bring the system into disrepute. This is a reason that suggests the desirability of a study of the methods of working it.

I do not take up the suggestion of Mr. Hinton that silver would be a suitable substitute for gold as an international asset, even at gold value, because the value of silver is always changing, and recent events in silver seem to remove any ground for confidence in treating it as the basis of a note, which is to have constant value in terms of gold. As regards the general question we have been discussing, I think the main difficulty is the problem of securing an international will to tackle the matter of gold economy. That can only be achieved gradually. The League of Nations approach is a very cautious and moderate one, but probably it is as far as one could go at the beginning, and I imagine there was great difficulty to get agreement even on that. Ultimately, we may carry the issue further in the direction that Mr. Brand proposes, and we must hope that the problems of the future will be solved as they come along. Meanwhile it is well to look ahead and be ready with suggestions and plans.

Seventh Meeting of the Chatham House Study Group on the International Functions of Gold, 3rd December, 1930.

FOR WHAT OBJECTS DO CENTRAL BANKS HOLD GOLD?

BY THE HON. R. H. BRAND, C.M.G.

MR. J. M. KEYNES, C.B., in the Chair.

THE CHAIRMAN, MR. J. M. KEYNES: I think it is exactly a year since the group began its meetings, and it is also almost exactly a year since the Macmillan Committee began its labours; and as we have not finished our labours, I suppose we cannot complain if they have not finished theirs.

I think the events of the last year have shown that the subject chosen for discussion by this group has been very well chosen, because the matter has been coming more into the limelight all the time the group has been considering it; it is becoming progressively a more urgent and important problem, and one which it is very necessary to instruct public opinion about.

This group is a private body, but it is a very representative one. I think more is capable of being done for the well-being of the world with regard to this matter than in almost any other way.

I will now ask Mr. Brand to give us an address on the question, to which perhaps there is no answer, Why do Central Banks keep gold?

THE HON. R. H. BRAND: Perhaps before I begin I ought to explain that I do not regard myself as an economic expert or an expert on the gold question, but as a banker who has paid as much attention as he can in the course of a busy life to this particular problem. I am a follower of the economists; perhaps a good many bankers are not; but I myself feel that the economists have a great deal to teach bankers. On the other hand, bankers perhaps sometimes are maligned. I think they are more clever than some people think they are, since they appear to have invented a system which they work, to some extent without understanding it, and a system which even the economists find it very difficult to explain to them. So that they work rather like bees making honey: they do something, but they do not always understand what they are doing.

The other thing I should like to say is that I am afraid you will find this opening of the discussion by me very elementary. When I was asked to open this discussion, I accepted readily, but when I had accepted, and sat down to try to think what I was going to say,

I found it very difficult to make up my mind, and the only thing I felt I could do was to give a sort of synopsis of the whole question as it appeared to me. Such a synopsis will include a great many elementary points.

I should say that the advocates of the gold standard base their advocacy on three main points. The first is that, in their opinion, some international standard is necessary; the second is that until some international authority is created which possesses the general support of all gold standard countries some metallic basis is necessary for that international standard; and the third is that at present gold alone meets such requirements.

By means of the gold standard, of course, all countries keep in step; the gold standard exchanges remain constant within the gold points, and prices in the gold standard countries vary together.

Whether an international standard is really preferable to an internal standard is another question. Until recently I should not have thought of questioning that an international standard was the only possible one to go for. I personally do not question it now, but the events of the last few years have certainly led one to see that an internal standard has, or would have, certain great advantages which are not possessed by an international standard. I shall not, however, go into the question of an internal standard as against an international standard, because personally I think, from the practical point of view, we have to take the gold standard as here and as going to remain here.

If one has an international standard, the first and fundamental duty of every central bank is to maintain its currency at par with gold. It has other duties, to which I will come later, but I regard that as absolutely predominant, to which everything else, if necessity arises, must conform.

The second duty of a central bank should be to work the gold standard so as to harmonize as far as possible external with internal requirements. Those internal requirements would be to maintain reasonable stability of prices and to provide credit to the amount and at a rate which is adequate for internal industrial, commercial, and financial requirements.

I have not yet been able to read the whole of Mr. Keynes's new book,[1] but I have noticed that his fundamental thesis, so far as internal currency is concerned, is that the stability of prices internally can only be secured by the central bank so arranging credit conditions that savings and investments are equalized. Even if the central bank,

[1] Keynes: *A Treatise on Money.* 1930. London: Macmillan. 2 vols. xvii, 363 pp.; viii, 424 pp. 15*s*.

however, is able to perform this very difficult function, in the end it will be bound to have regard to external conditions in preference to internal conditions, and to regulate its policy so as to maintain the exchanges, even if by so doing it upsets the equilibrium between savings and investments.

The third objective, of course, is that each central bank should do what it can to maintain stability in the value of gold itself. But that is not a problem which can be solved in any way by one central bank; it must be the work in co-operation of all central banks.

Now, if I take the first question—namely, the duty before the central banks of maintaining their currency at par—the general belief in the world seems to be that this is to be achieved by holding gold in a certain proportion to the note issue. You have, as you know, two main systems of the world: the percentage system, by which you hold gold in the proportion of 30, or 40, or 45 per cent. to notes—sometimes notes alone, sometimes against notes and central bank deposits; and the fiduciary system, such as is in force in this country. The percentage system seems to me—I agree here with the economists—to have no good points at all. As far as I know, it has never been actually tested in the crucible of experience. The United States and France, at any rate since the latter adopted that system in 1928, have always been able to keep an amount of gold well above the legal reserves. And in other countries it has yet to be tested. In fact, the central banks working under that system must keep a reserve very much above the legal reserves if they are to avoid having to face an enormous contraction of credit suddenly, which might bring disaster on their financial and industrial structure.

These two systems are both based on the fundamental idea that gold is kept in order to provide for the convertibility of notes. They result, according to the figures which Mr. Keynes gives in his book, in the main central banks of the world holding legal reserves amounting to £795 millions, which cannot in any circumstances be touched, and which are therefore quite useless for all practical purpose; and excess reserves over that figure only to the amount of £446 millions.

I am not an expert in banking history, but I suppose if one were to go backwards into history one would find that the origin of the tying together of gold and notes was when the first goldsmith gave his first receipt for gold deposited with him, and that ever since then this idea that gold is held in order to maintain the convertibility of notes has persisted. Under former conditions, not so very many years ago, the system was, indeed, quite intelligible; gold and notes were alternative currencies. There were many cases where private issuing banks

issued notes which were never honoured, and governments also in many cases over-issued notes and depreciated their value. It was quite natural, when gold and notes were alternative currencies, that the note-holder should feel he had a perfect right to go to his bank and obtain gold for his note. But under modern conditions notes seem to me entirely secondary.

What has to be watched in a modern financial system in the first place is the total creation of credit; first of all, the sub-structure of central bank credit and then the superstructure of credit built up upon it by all the banks of the country. What has to be watched in the second case is the policy pursued by any government, particularly its budget policy and its borrowing policy. It is through the over-creation of bank credit, or through a bad policy on the part of a government, that currency is now depreciated, rather than through the over-issue of notes.

If you take, for instance, the case of Australia now, you will see it is the policy of the government *plus* the policy of the country as a whole—the economic policy of the country as a whole—that has led to the depreciation of the currency and the note issue, not the over-issue of notes themselves. In no country have notes ever been, in fact, all actually convertible. Even in backward countries now, where you have a simple system of note issue and no developed credit system and where the governments claim that notes are convertible, when the moment of crisis comes, and at the moment when the note-holder wishes his note convertible, it is almost certain that the government will declare that it is inconvertible.

The second reason why it seems to me useless in these days to base the gold reserves of the central banks on notes is the abandonment of gold as an alternative currency. Obviously in this country a note as a note is not convertible. The Gold Standard Act of 1925, providing that notes cannot be converted for less than a minimum of about £1700, shows that the intention is that gold shall only be used for export. Reserves in any developed country like ours must be measured, indeed, not by the size of the note issue, but by the probable requirements of the country for gold exports for the purpose of balancing any deficiency in the external balance of payments until either any temporary difficulty has passed or until the central bank has had time to put into force measures leading again to an equilibrium. Unless, therefore, the size of the note issue in this and other countries is the proper measure of the probable external drain, it is quite irrational, to my mind, to determine what amount of gold reserve the central bank shall hold on the basis of a total note issue.

The size of the note issue is obviously not the proper measure of such a drain; the reserves should be determined by other conditions, to which I will refer shortly.

It is true, of course, that any note issue would ultimately have to be contracted as a result of exports of gold if they went far enough; but in a country like ours, or in the United States, or in other highly developed countries, long before that point was reached purchasing power and credit would have been contracted by the reduction in central bank deposits and by other measures which the bank might put into force to prevent further exports and produce equilibrium. Only secondarily will the note issue fall with that contraction.

Certainly the remedy is not an automatic note contraction as the result of gold exports; in fact, I myself doubt whether under modern conditions any automatic system is possible, or anything approaching an automatic system. The causes leading to the export of gold are extraordinarily varying. If you take a country like ours, the cause may be either purely temporary or seasonal; it may, on the other hand, be due to something much more fundamental; but it is absolutely necessary that these causes should be weighed from time to time by the central bank, which should be able to put into operation remedies differing according to differing circumstances. If it were quite clear that central banks were to be free from all political interference, I myself would prefer that they should have absolute and complete freedom; that the only legal stipulation should be that they must maintain the exchanges and, through them, the value of currency at par; but I suppose it is too much to hope that any central bank will be free from political interference, or at least political pressure. I recognize, too, that to give entire freedom to, or to impose entire freedom on, central banks would mean that they would have to exercise extreme wisdom and fortitude in order to be able to harmonize internal and external needs.

I think that under conditions such as we have now the danger before a central bank might be that it might feel it had to pay undue attention to internal needs rather than external needs, and might find that it had been drifting away from world conditions and would have to take severe measures in order to get back into equilibrium with the rest of the world.

Therefore, I admit that to give central banks complete freedom will be to put a heavy task on them, quite different from the task that they fulfilled before the War under a system which was far more automatic.

Now, if complete freedom is impossible, I think we have to ask how

far we should go in giving the Bank of England and other central banks greater freedom than they have at the present time. It seems to me that the best system would be, if it were possible, to persuade other central banks to adopt something in the nature of our fiduciary system, with a fiduciary issue large enough to free to a very great extent their gold reserves. In practice that would be much the same system as Mr. Keynes has suggested in his book—namely, that the only limitation on the freedom of a central bank should be, in the first place, to fix a minimum gold holding necessary to give confidence to the public and to act as an ultimate reserve in case of an emergency such as war; to fix that minimum gold reserve; and then, on the other hand, to fix a maximum note issue from time to time, according to the French system before the War. According to that system the maximum note issue was fixed by the Legislature from time to time, and when it appeared that conditions had got to the point where an increase was required the Legislature would pass an Act increasing the total issue.

That is not, I think, a very different system from a fixed fiduciary system with a fiduciary issue big enough to give very great freedom in handling gold reserves. The duty of the central bank would then be, while allowing large fluctuations in gold, to determine in its own mind what was an adequate amount of free gold over and above the fixed minimum. If there were large demands for export the central bank could let its reserve fall to a figure a long way below that which might be the normal average. It would then take an opportunity under better conditions again to increase its reserve to the higher figure.

I must admit that the difficulties of harmonizing internal and external conditions make the French and American plan of meeting this problem very attractive. Their system during the last few years has been to maintain such huge gold reserves that they really can play with their internal conditions more or less as they like, without considering the world at large. But this system, of course, is anti-social from the point of view of the world at large, and renders the third object of the central banks—namely, stability in gold value—quite impossible. History stresses, what you all know, the vital importance of stability in the value of gold. The existing collapse throughout the world is a good indication of that. I will not go here into the question to what extent the world collapse is due to gold. Certainly in part it is due to its mal-distribution, and that mal-distribution grows worse all the time.

Mr. Loveday gives certain figures in his article published in the

League of Nations Interim Report,[1] showing the vastly increased demands for gold resulting from the percentage system and the tying of gold to notes. In 1913 the main central bank note issues were $8,982 millions; in 1928 they had gone up to $18,181 millions, i.e. the note issues had more than doubled in those fifteen years. Under the percentage system that necessarily meant a similar proportionate increase in gold reserves, which went up from $4,922 millions in 1913 to $9,992 millions in 1928.

If it is impossible to secure that the great nations of the world should go over from the percentage system either to the fixed fiduciary system or to the system suggested by Mr. Keynes, then there are still certain palliatives that are possible. In the first case, all nations should agree not to use gold for coinage as currency. The United States still uses gold as currency, and can increase the circulation of gold to any extent it likes. France, I think, has power by decree to declare the use of gold as a currency again.

The first thing we should aim at is that all countries should actually determine not again to use gold for coinage purposes, at any rate until gold becomes superabundant rather than in short supply.

Then, of course, another step one could take would be a reduction in the percentages from 40 to 30 per cent. or 20 per cent., or whatever we can get the different nations to agree to. So far as safety is concerned, it is certain that 20 per cent. would be a perfectly safe percentage for the United States to hold. It is not possible to conceive that the demands of the United States for gold purely for export to meet a temporary disequilibrium in the balance of payments would be so great that she should want more gold than would be represented by 20 per cent. of her note issue.

Another palliative would be the holding of foreign deposits as part of the reserves instead of gold. That, as you know, is practised to a very considerable extent now, and should be developed. I am bound to say, however, that I myself feel that this system leads to certain dangers. It would be all right if we had an international institution accepted by all parties where these reserves were kept, and which acted as a sort of clearing-house; but if the nations working this system are to use certain centres—say, London and New York; let us consider particularly London—where they keep a large part of their reserve as sterling deposits, then obviously that system might under certain conditions put an immense strain on the London money market, and on the Bank of England, particularly when the amount of those deposits, and therefore the amount of the claims upon our

[1] *Op. cit.*, Annex XIII: *Gold: Supply and Demand*, by A. Loveday.

reserves, is not known. We should, I suppose, if we treated these deposits really as gold withdrawn from us, make provision at the time for meeting them; but at present we act as if it is unnecessary to make any further provision owing to the fact that other countries leave huge deposits with us as part of their reserves which they are entitled to draw at any moment.

Perhaps a more likely development than our being able to persuade other countries to adopt any new system is that we shall gradually develop the Bank for International Settlements, or some other institution, as a central bankers' bank, which will hold gold on its own account and which will grant credits to the central banks and hold their reserves. If we could develop that system we certainly could economize enormously the use of gold, and we might even have to fear an inflation of prices rather than a fall. It is obvious, indeed, that if we were all to co-operate on reasonable lines there is quite enough gold in the world to act as a basis for the credit systems of the world for a good many years.

Yet when we look at the present situation I think we must all be appalled at the difficulties in the way of reaching such co-operation and in persuading not only the central banks, but particularly the populations of the countries concerned to do the right thing. The great difficulty at the present time is that we are still suffering from the great instability of post-War conditions; the world has not yet nearly settled down to the position of equilibrium that more or less existed in 1914. As long as, outside industrial and commercial debts, we have huge reparations and inter-allied debts to pay, that in itself is likely to lead to a mal-distribution of the gold reserves of the world. In addition, another very potent influence is the action of the United States as a creditor nation. She has only recently become a creditor nation—and she is a very large creditor nation—but she acts by such extraordinary fits and starts that she imposes great difficulties on the rest of the world. For a year or two she will lend the world what appears to be a great deal more than her favourable balance of payments; she will produce in a continent like South America conditions of boom by lending enormous sums of money for the production of all kinds of raw materials, leading those countries greatly to increase their imports of manufactured materials, and then suddenly, owing to an inflation in her own country, she will produce a boom there leading her to cut off supplies from all these countries. This produces conditions of crisis and collapse in them and further reactions in the rest of the world.

Of course, another great difficulty is the one which you have

discussed here before—namely, the difficulty of France. I see no reason why France should not at present go on taking gold from us. If you look round the world at the moment you will see gold being sucked in from all the countries of the world, mainly into France and partly into the United States. Gold has been coming to France through us recently from the Argentine Republic, from Australia, from Japan, from Brazil—in fact, from almost every country you can mention. Those countries are gradually getting denuded of gold, and yet I think it is almost as doubtful when we shall get gold back out of France as it is when we shall get gold back from India.

In face of these difficulties, and in face of the fact that a country like France is unable, apparently, to economize in gold, the difficulties before us in arriving at a general co-operative policy leading to the harmonized distribution of gold are extraordinarily great. The difficulties before this country are perhaps greater than those before any other country in the world, owing to the fact that we are still—in certain respects, at any rate—the greatest financial centre in the world. We cannot therefore afford not to adjust ourselves to external conditions, and yet, owing to the rigidity of our economic system in many respects, we find that very difficult to-day. We are also bound, in view of the calls upon us, to remain strong; and nothing that I have said to-night is meant to lead to the view that we have too large a gold reserve now, or that we can afford to weaken ourselves in the face of the world. What I have meant to suggest is that we and other nations should have a more elastic system—should have a system by which the reserves we have are much more free than they are now—so that at times we can see gold go confidently, keeping a perfectly confident mind, with the intention of putting into force measures, if need be, to bring it back again.

The greatest need, obviously, at the present moment is the education of the world with regard to these problems. I do not think we can ever expect that public opinion as a whole will understand them, but they are not understood in more limited quarters. They are not always understood in the City of London; they are understood perhaps even less in some other financial centres. Until we can get the world of finance to understand and be prepared to accept large changes, I do not think we can get much improvement. Perhaps the best hope is that we should get organizations like the League of Nations Financial Committee to produce reports showing us the right way, and gradually, through them and through the Bank for International Settlements, influence the opinion of the central banks and, through them again, the banking communities of each centre.

Discussion

The Chairman, Mr. J. M. Keynes: This is a very wide subject, and it is now open for general discussion, although Mr. Brand is prepared to answer questions.

Mr. Hodson: I hesitate very much to follow Mr. Brand, who speaks as a practical man in these matters; but as an amateur it does seem to me that at last we have got down to the real bones of the problem which this group was formed to consider.

So far, and in all the documents which have been circulated to us—with few exceptions, notably the memorandum by Sir Basil Blackett—it has been assumed that the traditional formulae and customs about gold-holding were part of the data, and that we must consider the future of gold on that basis; we never have really discussed the fundamental question as to why we needed the gold reserve as an item in the monetary system. All our discussions have been in the light of an assumed and, I think we may take it, proved prospective shortage of gold—in the light, that is, of a need for an economy in gold; that was in the background of Mr. Brand's remarks, and no doubt at the back of all our minds. In that light it does seem interesting to compare the gold reserves that are held by central banks with the cash reserves of the joint-stock banks of this country. Those cash reserves are held really for three purposes: first, as till-money or cash required by their own customers; secondly, to cover clearing-house deficits—that is, their occasional debts to other banks; and thirdly (I think this is the most important statistically if it could be measured) as a sort of advertisement, as a sort of encouragement to believe in the soundness of the bank.

Now that last reason is one which it is very difficult to measure, and the relationship of the present size of reserves to it is really a historical one. When the figures of the joint stock banks' reserves were first published, there was such-and-such a proportion between them and their deposits, and that has been more or less maintained, with a secular reduction; but in any case it is purely a matter of custom; and if we had adjusted ourselves to an 8 per cent. instead of a 10 per cent. or 11 per cent. cash reserve in the joint stock banks we should have been just as happy in depositing our money with Barclays Bank or the Midland Bank.

Now those seem to me to be roughly the same reasons as those for which a central bank holds a stock of gold; it holds it as till-money—that is to say, as money to be paid out internally to cover

notes which are cashed for gold by the residents in its own country; but that is, in post-War conditions, almost a negligible factor.

The second reason—and this, of course, is obviously very important—is that it holds gold in order to settle its international balance; on that ground the gold reserve ought not to be compared directly with the volume of bank deposits in the country—the whole structure of credit, let alone with the amount of notes outstanding—but rather with the contingent liabilities which the country may have in its international balance. Obviously a country such as this, which is a considerable foreign lender and, on short term, also a considerable foreign borrower, which has a large external trade compared with the volume of its internal trade, and which suffers large fluctuations in its external balance, requires a greater amount of gold in proportion to such an arbitrary standard as the numbers of its population than does a country like France. For that reason it is very misleading to compare country with country. It is highly anomalous that, as compared with France, we have in fact very much less gold in relation to such a standard, or in relation to the amount of notes outstanding, since we have built up on those notes a greater structure of internal credit than she has.

The third reason, assurance of what I might call the financial solvency of the note-issuing authority, the central bank in question, accounts for the greater part of the holding of gold, and there, it seems to me, is the greatest scope for economy. The Bank of England holds, let us say, £100 millions worth of gold, which none of us would miss if the moth got into it or it was stolen and disappeared, provided the loss did not appear in the Bank of England's accounts. The Bank of England would not miss it, and we certainly should not. There is no possibility of its being taken away. I remember, Mr. Chairman, your own account of the German town which enacted that there must be one cab on every cab-rank in order that there should never be a shortage of cabs. That is exactly what we are doing with gold.

Hence, if the world could be persuaded that not a 40 per cent. or 30 per cent., but a 20 per cent., or even less, proportion of gold was sufficient to ensure the solvency of its financial standard, we should have no fears about a future deficit in the supply of gold. But that is a matter of psychology; it is rather difficult to formulate any definite policy with regard to it.

I would like to turn back for a moment to the second reason, the covering of international deficits. Those deficits can be covered, as they arise in the ordinary course of trade, by adjusting the balance itself, as well as by the outflow or the inflow of gold. In fact, that

is what the central bank does when it desires to restrict the outflow of gold: it raises its rate of discount in order to attract to the country the funds which would otherwise flow abroad, or even funds from abroad. In 1925 the Bank of England did the same thing by an unofficial embargo on long term exports of capital. It is also possible to secure an adjustment by selling holdings of foreign exchange, and that, in fact, is how the gold exchange standard is worked. The gold exchange standard has resulted in an economy of gold, but it has not secured large economies in gold so far as this country is concerned, because it is an impossible system for any one of the three or four large holders of gold. The currencies which they can rely on as being as stable as their own, or as being 'as good as gold', are comparatively few. There are only one or two that we could rely on, perhaps only one, but what I should like to suggest is that the gold exchange standard would be possible even for us if we could pool all the gold exchange reserves. The Bank for International Settlements offers the means of such a system. It is obviously impossible for this country to act alone or at once, but I suggest that the Bank of England might hold, as part of its reserves, deposits with the Bank for International Settlements, since in fact those deposits are represented by a large mixture of gold exchange of various kinds, and form a sort of investment trust in foreign exchange.

Although, as I have said, that is obviously an impossible policy for immediate purposes, I think it is worth considering as a long run eventuality for the purpose of economizing gold and bringing the actual amount held more into conformity with the real purpose for which we desire it.

Sir Basil Blackett: I agree with the last speaker that in getting down to this question we have got down to what, to me at any rate, is the guts of this particular question. I also agree with something which fell from Mr. Brand at the end of his remarks—namely, that what one says about this sort of question ought not to be taken for a moment to have any particular bearing on the question of whether the amount of gold which the Bank of England at present keeps is the amount it ought to keep in present circumstances under present conditions. I take it the object of this group is to go somewhat deeper than that and to try to create and lead informed opinion towards some better understanding of the whole subject, and not to effect any immediate change in the immediate policy of any one particular central bank.

The question, Why do banks keep gold? can be answered, I think,

frivolously in several ways. I think the first, and perhaps the most important, answer is because other central banks keep gold. Perhaps another answer would be because the banks think that people think they ought to keep gold, or even because the banks think that people think that the banks think they ought to keep gold. Possibly another answer would be because the central banks are not clever enough to manage any system other than the gold standard, or they are not clever enough to persuade people to think they are clever enough to manage any such system. But I think the real and fundamental point upon which this group ought to concentrate is the point which was mentioned by the last speaker.

The idea that you keep gold for the purpose of making the internal currency of any country, or any Western country at any rate, convertible, is one which ought to be exploded right away. It would be a tremendous gain if we could get people to understand that just that amount of currency is required in a country which is enough to keep prices stable; or let us assume for a moment that keeping prices stable and keeping exchanges stable are the same thing—they are not—the amount of currency which is required for keeping prices stable depends on the volume of transactions and sales and purchase of goods and services, and so on; and the amount of gold that is required ought not to have any direct relation to the amount of currency that is out. It has only a very indirect relation, in my opinion.

The amount of gold that a central bank requires, if we could persuade public opinion to see the truth, is the amount that will make it perfectly safe for meeting an external balance of payments against it at any given moment. That ought to be the sole purpose in a peaceful world for which a gold reserve is kept—to meet an external balance of payments that is against that country.

As the last speaker pointed out, there are several means of dealing with a balance of payments that is against a country, but, of course, they cannot be brought into effect all at once or too rapidly. With a perfectly wise body governing a central bank, a reserve of gold which is sufficient in any reasonable emergency to meet a temporary balance against it is really the measure of the amount of gold that a wise world needs to keep in its central bank. Of course, the world is not wise, and the world is divided up into nationalities; and one point mentioned by Mr. Brand, which I believe to be one of the chief reasons why many central banks keep a great deal more gold than is necessary, is the fear of war, the idea of preparation against war—I am not at all sure that behind all the other reasons, some good, some bad, some indifferent, for which the Bank of France at present keeps an

enormous gold supply, is not the idea that it is in preparation for war; and, of course, quite apart from any question of war, unfortunately the question of national prestige enters. There is still the idea undoubtedly abroad in France that by having a large gold reserve she is giving herself a prestige and is creating conditions by which, if not immediately, in the near future she can take the place of this country as a great central financial market. It is based, I believe, on the fundamentally false assumption that a large amount of gold in reserve is the essential proof of a country's being financially strong.

Of course, in France, and perhaps this applies still more to the United States, the idea that gold is necessary for sound money purposes is still very prevalent. The effect of the devaluation of the franc since the War has been, I suppose, to create a very considerable want of confidence in notes among the people of France, which is met, for the present psychology, by the presence of a large gold reserve in the Bank of France; but in the United States the history of the Civil War and the 'Greenbacks' is still very prominent in the minds of a great many people who think perhaps not deeply, but who think a little about the question of gold reserves and notes, and there is still the feeling that a note is not really quite honest money unless there is 100 per cent. gold reserve behind it somewhere.

The main purpose I had in rising to-night was to say that I believe the first and foremost principle that we ought to get driven home, and on which we ought to concentrate, is the truth that no currency note in the world is convertible, and that no sensible central bank ought to regard it as such.

Mr. Glenday: I find myself in a double difficulty in approaching this question of the 'use' of gold reserves. I have no specialized knowledge of banking matters and am accustomed to look at currency questions from the point of view of business. So far as internal credit and currency needs are concerned, the matter appears relatively easy of solution. I understand, for example, that if the Bank of England secures an additional £1 million of gold this can form the basis of £10 millions of new credit. By turning over the credit we can, judging from certain banking statistics, finance, say, anything up to £60 millions of business transactions in a year with trade at the 1929 level. Since in other countries such as the United States this turnover may reach anything up to twenty times as much, it should not be impossible to provide all the elasticity required without bothering very much about the gold basis.

My difficulty arises when we consider the position of London as

the centre of an *international* system. The question I wish to ask Mr. Brand is: Are we justified in considering the gold problem *in vacuo*—that is to say, as something apart from the international trade system and British foreign investment policy which gave rise to it? How far was the universal adoption of the gold standard, and everything connected with it, a necessary consequence of the circumstance that we, as the basic gold standard country, were also the principal country opening up the world to international trade in the nineteenth century.

Was it not an important part of our function to establish in newly created foreign centres the nuclei of monetary and banking systems based on gold either held in London, or transmitted to them via London? I noticed, for example, that Mr. Brand referred to the recent actions of the United States in South America. He pointed out that the United States had latterly lent funds to certain South American countries, and then precipitated crises in them by suddenly withdrawing those funds, or slowing down their rate of inflow. Surely that was very much the same sort of thing as happened at times during the last century, when there was a slackening in connexion with our foreign investment policy. Our stream of loans moved on from country to country in accordance with our raw material and food requirements. When industrial development in one country had reached the stage of consuming a sufficiently high proportion of its home production of these materials to effect a rise in prices, our financial activities were transferred to a newer and more profitable area. That is to say, our monetary policy was not merely concerned with the basis of domestic credit, but was an active promoter of trade development in 'new' countries where no monetary system previously existed.

I should very much like to know whether I am right in thinking there is a connexion between the two things, because if so, a determining factor in recommending a monetary policy for the future must be the nature of our investment policy. For the moment, at any rate, neither our domestic gold standard nor the pre-War foreign investment system appears to be working freely.

May I put it in this way? Is it an accident that before the War we were pre-eminent both in promoting foreign investment and in supplying the new countries of the world with currency systems, or bank-credit systems constructed on gold? Relating my question to current trade policy, is it possible that behind the gold-hoarding policy of France there is the subconscious idea that she may repeat our success in world trade and world influence by using her gold to

provide, say, China—or any other country likely in the near future to need both capital and a new currency—with a financial system designed to promote French trade ?

Mr. Brand: I will try to answer that question at once. Before the War, it is true, we lent a great deal of money to different countries, and no doubt by the loans we made, those countries were in a position to draw gold from wherever it was if they wanted gold, and were in a better position to do so than they would have been in if we had not lent them money; but I do not think we ever did what I understand you think the French, perhaps, are doing—that is, hold a very large stock of gold in order to send gold to other countries. It would not be necessary to do that. If you make loans to them, they can use those loans for whatever purpose they like; partly for securing such gold as exists in the free market or from other countries who are exporting gold. I do not think the French have any conception in their minds of building up a huge reserve so as to actually ship the metal—gold—to China, for instance. I think at the present moment the import of gold into France is purely automatic; and that they have no idea at the back of their mind of using that gold to ship to other countries. They undoubtedly, as Sir Basil Blackett said, feel that the possession of an enormous amount of gold gives them a prestige in the world, as it does. I should say that in all Continental countries the possession of a huge amount of gold is regarded as a matter for congratulation.

Mr. Flux: Mr. Brand has given us a very instructive survey of this subject. He spoke at one time of the system that prevailed in France before the War, and spoke of it with a good deal of approval, and I, with him, am disposed to think that, given a banking system managed by a set of bankers who know what they are at, and who act with discretion, such freedom would be a very good thing. Mr. Brand suggested that the condition is not always fulfilled. Of course, the nominal limit never really bindered the expansion of the paper circulation, because it was easily arranged that the limit should be extended, but it did in a certain way restrain the volume of notes put into circulation. Mr. Brand also referred, and so did Sir Basil Blackett and others, to the undesirability of having gold in use as a commercial circulating medium; and my thoughts went back to the time when it was thought necessary to have a considerable gold circulation in this country. When that system was generally practised, it was possible to get a certain amount of adjustment within the

country by the passing of the gold out of private possession into the banks, and making it available in that way for international use. That has disappeared, and we have determined we will not use gold as actual coin, and that we will only use it in some sense as a backing for a paper circulation. We are thus left in the position that the world has a certain amount of gold, and the question to be solved is, How is that gold going to be divided between the different holders? The holders struggle for a share in it, and we may ask, What are the motives that determine the limit of their struggle? Mr. Brand has been urging that we should lower the nominal maximum and leave more of what remains above to the discretion of those who are managing the business. I have a very great deal of sympathy with him. I think a very important motive that is going to act upon the minds of those who determine how much gold their particular central bank should strive to hold is what they regard as the amount that is to them an earning asset. In cases where gold could serve as the basis of expansion of credit it might be in that way an earning asset. Sometimes gold does not serve automatically as the basis of an expansion of credit. The thing we at present are surprised at is the way in which certain countries still appear to believe that piling up a large amount of gold is to them the piling up of an earning asset, and we may wonder whether it is another feature which enables it to become an earning asset. Besides serving as the basis of expansion of credit, it serves to instil into the minds of the people of the country, and of people abroad, a confidence in monetary security so far as that country is concerned; and though we shall not in that way see quite at once the dividend on the gold, it may nevertheless be in reality an earning asset. In that sense the difference between ourselves and other people is that we, apparently, have come to the conclusion that a very modest stock of gold will reach the limit of what will be an earning asset to us, and I take it that one of the points, at any rate, of Mr. Brand's address is that we need to convert the authorities in other countries to the same kind of opinion, i.e., that a modest amount of gold will reach the limit of what, with a wise management of their financial system, can be to them an earning asset; that there will then be a larger amount for distribution. We shall not find then that the comparatively small amount of gold there is in the world is being stored away by two or three great central banks, who, for some reason or other, are prepared to convert their earning assets into dead assets. The question comes down to this: To what extent in a given financial system does an addition to the stock of gold constitute an addition to the earning assets?

Mr. Crump: I speak subject to correction, but is it not a fact that the Bank of France itself is forbidden by law to accept gold of less than a definite fineness? It is inevitable that the discussion to-night should centre upon France, but I think we have to take it that the French importation of gold is one of the post-War maladjustments which Mr. Brand said we are still suffering under. The fact is that the French banks, as the result of circumstances now past and gone, piled up huge foreign balances, and the moment there is a run upon them, as during the past month, they are forced to draw upon their foreign balances. That the whole position is getting serious is shown by the fact, as I am told—and Mr. Brand, I think, may be able to confirm it—that the pressure on the banks, and the resultant drawing upon their foreign balances, simply means that gold is going into France and notes are being issued against that gold for the sole purpose of being withdrawn from the banks and hoarded by the public, who are too nervous to leave their money in the banks. If that is correct, then, of course, a serious situation is arising.

There is one other suggestion I want to throw out, because, after all, we, as a group, are concerned with the long view, and to set ideals before us, even though they may not be attainable, is a good thing. I am not sure that one of these ideals is not that of regarding the Bank for International Settlements as a central bankers' bank. By this I mean that the central banks, instead of keeping their reserves in gold, should hold them in the form of balances with the Bank for International Settlements.

There are practical difficulties, of course. There is one suggestion I should like to make in regard to what Sir Basil Blackett said. He instanced the possibility of war and the unwillingness of the central banks to part with their gold in exchange for balances at the Bank for International Settlements. Now if the Bank for International Settlements were to hold its gold reserve concentrated at Basle, it would be a long time before we could persuade the countries of the world and their central banks to pool their gold physically in that centre. But there is a way out of it—namely, that if we are going to create a world gold pool under the Bank for International Settlements, it would be perfectly practicable for that gold to be held all over the world under earmark at different central banks. That does seem to me to overcome Sir Basil Blackett's objection in the eventuality of war, which at present is a practical one. At the same time, the idea is an ideal, of course; it would demand very careful management; it would demand the drawing up of new rules of the game altogether, and satisfying ourselves that the people who had to play the game under-

stood the rules and could interpret them. The old rules of the game that we learnt and practised in the past are either breaking down or in grave danger of doing so, and in drawing up the new rules we shall have to see how to define them and how to put them into force and, above all, how to keep to them and get some semblance of law and order. I am extremely grateful to Mr. Brand for putting before us to-night some of the fundamentals of the problem and showing us some of the points to which we have to address ourselves.

Sir Basil Blackett: I did not mean to suggest for a moment that the Bank of France at present has a policy of drawing gold from here or elsewhere. What I did suggest was that the mental attitude both of the Bank of France and of the French people has been, and is, such that a very much greater amount of gold has been, and is being, drawn towards France than is in any way necessary if they, and the rest of the world, had the right idea as to what central banks keep gold for.

Mr. Lloyd: On this question of France's gold, no doubt it is true that technically the Bank of France is not in a position to stop the inflow at the present time, but is not the French nation, or the French Government, really responsible in the sense that it could, by altering the statute of the Bank of France, take the necessary measures? I understand the Bank of France is tied up much more strictly than it used to be in its statutes in the way of open-market policies and the buying of securities, and if there is a demand for further cash by the French banks, the only way they can get it is by taking gold to the Bank of France. If that is so, then presumably its statutes could be altered, and I should like to ask Mr. Brand if the statute could be altered by decree, or if it has to be explained to the French Parliament, and there has to be an Act of Parliament.

Mr. Brand: I think the answer is that there must be an Act of Parliament. There is no open-market policy possible.

Sir Albert Stern: Since the War Turkey has a fixed note issue of 150 million Turkish pounds. This autumn, owing to lack of currency, in order to prevent an appreciation of the currency, the Government passed a law by which further notes can be issued against sterling, at a fixed rate, the sterling to be deposited with the Ottoman Bank. In spite of Turkey being in default on her External Loans, over £1 million sterling worth of notes have been issued.

I think that position is an interesting one for experts to study.

THE CHAIRMAN, MR. J. M. KEYNES: I think there are, at any rate, two points on which the group is fairly well agreed. The first is that the gold which a central bank holds ought to have no particular relation to its note issue. If that were accepted in the world at large, as it is in this room, it would be an enormous gain. I should say there is hardly any central bank in the world which would not be very much shocked by the idea, yet there is in this room a considerable variety of responsible opinion, and that thesis of Mr. Brand has not been disputed.

Secondly, I think every one is agreed that the right criterion for the amount of the gold reserve is the amount of the sudden demands that a country may be subject to internationally before it can take other measures of regulation, so that a country which is an international centre, or a country which has one crop which is particularly important in its international relations and is therefore subject to a large external drain, is justified in having a much larger gold reserve than countries which are not subject to that contingency. The classical discussion of gold reserves on these lines is, of course, that of Sir Lionel Abrahams when he was calculating how much the Indian Gold Standard Reserve ought to be.[1] I think he was the first person who got perfectly clear in his mind that the really important thing was the possible magnitude of the short period adverse balance of payments which you have to meet in gold, and that the amount you should hold in an international centre, or in gold, should be measured by that. He used to calculate on the basis of fluctuations in the prices of commodities in which India was directly interested what was the largest figure which it would be reasonable to provide against, and on that he arrived at his recommendations. That is the sort of way in which every country ought really to approach this problem. That, I think, is the second proposition advanced by Mr. Brand which met with general acceptance. That again is an ideal; if it were accepted everywhere it would mean a very great advance; but we find ourselves rather naturally drawn away from these general propositions to the very practical problems of the present situation, and I think when we do that we are led perhaps into looking at the matter a little more fundamentally again. I have mentioned more than once that this group started by considering the shortage of gold on what one might call Cassel's line; I mean comparing the increment of gold with the increment of

[1] Great Britain: *Evidence (including Memorandum) of Sir L. Abrahams before the Indian Exchange and Currency Committee*, June 1919. (Parliamentary Papers, 1920. XIV.)

economic activity of the world, and seeing if the one was comparable to the other. Then we got on to this further point: Why, after all, should you require an increment of gold in that precise proportion? And we have reached the conclusion that if central banks were to direct their policies in a way which, in itself, is perfectly reasonable, there would be no need for such a large annual increment of gold as would be suggested by the earlier calculation. On the other hand, a much smaller amount would do perfectly well if those principles which I have been mentioning were generally accepted. But I think there is a further question. What is the effect when central banks have got more or less gold than they themselves think necessary, either on the criteria which have been laid down to-night or on the criteria which they have been accustomed to obey? What happens when a central bank has not got the amount of gold we think it should have, or the amount of gold which it thinks itself it should have? I think that would be a fruitful subject for further discussion. It seems to me, put shortly, that the answer is that it affects its policy in lending and, while it may incidentally affect its internal lending policy, it affects directly its external borrowing policy, and is a disturbance of a kind which produces an effect on international prices and causes depression. The important thing is that creditor nations should regularly lend their surplus, and that there should be no tension in the gold market arising out of their willingness to do that.

Now, in our case to-day our willingness to lend internationally is mainly restricted by the gold tension, but in the United States and France, the other two creditor nations of the world, that factor is certainly not present, and the trouble is directly due to the unwillingness of their investors to invest abroad the surplus which is accruing in those countries; and while I think it is easy to maintain in our case that the trouble is rather closely connected with gold, it is not so in the case of those two countries. Their unwillingness to lend internationally, which is at the root of the trouble, is not directly due to gold, and such unwillingness would only be innocuous in a troubled state of affairs if there was so much gold in the world that all the debtor countries, who are normally borrowers, in order to liquidate their position, had very substantial surpluses of gold, so that when the creditor nations became unwilling to lend they could then balance the situation by shipping great quantities of gold to those countries. Then the unwillingness of the creditor nations to lend would not produce bad results. That seems to be contemplating something very improbable—namely, that the debtor countries

would be able to keep such large reserves that, when the creditor countries turned costive, they could nevertheless do without loans for quite a long period and meet the expenses which they would otherwise have met by loans by shipping very great quantities of gold. Therefore it seems to me one needs for the solution of the problem some sort of international policy by an international institution towards international lending—something a little remote from the gold problem. Gold comes in as a symptom, as a sort of barometer; but you will not get real stability unless you cast your eyes beyond gold to the irregularity of the international loan market. That is perhaps the most fundamental cause of serious upsets such as we are suffering from to-day. I think in the 'nineties this country played very much the same role that France and the United States are playing to-day. A series of events took place in the 'nineties and in the years following in various parts of the world which upset the situation generally, and for a period of two or three years this country stopped making the loans which she had been making during the 'eighties. All the other countries had to ship gold to us, though everything in those days was on a relatively small scale. Prices were depressed and there was unemployment everywhere; we were receiving gold all the time, and although the gold in the Bank of England reached what was, for that day, an unexampled height, our price level fell as the reflection of the fall of price levels elsewhere brought about owing to the deflation resulting from the drain of gold to us. We were doing exactly what France and the United States are doing to-day. As Mr. Brand said, the position is greatly aggravated to-day by the existence of certain international transactions of the character of compulsory loans. A country which is developing by means of international loans, and is then unable to get its regular supply of loans, can to a certain extent meet the situation by postponing the development, but reparation payments and inter-allied debts are compulsory, and they cannot be postponed when the market is not so buoyant as it had been previously.

Now, what are our own gold troubles due to at this moment? They are due to our investors having a psychology different from that of investors in France and the United States at the present time. They are also due to a very great extent to our being anxious to ease the situation. And failing that—if we too were to turn costive about foreign loans—we should be doing nothing but harm. Therefore we are trying all the time to lend as freely as we dare, and perhaps a little more, and then suffering the pain consequent on having got out of step with the other creditor nations. If France pursues her

present policy long enough, and if the United States does not come to the rescue—if, as one speaker suggested, France is prepared to go on taking something like £2 millions a week for an indefinite period to come—I think there is no doubt that this country could perfectly well protect itself. After all, we are a creditor country on a greater scale than France is, and by imitating France's policy we can cause a larger flow of gold to this country than goes to France. So that the worst that could happen to us—though I think it would be very bad—would be that France would compel us to imitate her, and by some means or other close down our foreign lending until she again is willing to take the lead. If that were to happen, it would be a very short time before the debtor countries were quite unable to meet their obligations. I should say nearly all debtor countries would then become unable to meet their obligations, and in that case the existing debts owing to the great creditor nations would be worth a great deal less than they are. It really is an extraordinarily short-sighted policy of creditor nations not to protect the value of the loans they have already made by reasonableness towards current requirements. We are so acutely conscious of this, as Mr. Brand emphasized, we are such experienced lenders that we are trying at the present time, as it seems to me, to protect the position of all creditor nations in the world almost unaided, and our apparent weakness is really the result of our extraordinary strong-mindedness up to date. We have been prepared to take risks in the interests of the international loan market. If France pushes the point too hard, and we decide that our own financial prestige and security must come absolutely first with us, the consequences to the world at large and to all creditor countries would be extremely serious, and it would seem wise before that point is reached for the creditor countries to see if they could not get together in some way to break the vicious circle, because it is a vicious circle—the less we lend the more insolvent the would-be borrower countries become. Every month that adequate lending by France and the United States is postponed the less attractive do the would-be borrowers become. The point may come at which they will be so badly off that no sensible person would wish to lend to them. Of course, I suppose we could say that will not make much difference to France, because France has seldom made a foreign loan that there was any reasonable prospect of her seeing back again; but in the case of ourselves and the United States it would be a very disastrous thing. I think it is those sort of ideas, as well as the ideas connected more directly with gold, which ought to be in every one's mind. My own mind tends more and more in the present emergency

to thinking that the reconstitution by some means or other of the international loan market is the most vital thing. This country cannot possibly in post-War circumstances do it alone, and the sooner we try to get an agreement with the other creditor nations on this basis the better it will be for every one. The alternative course will not embarrass any creditor nation itself, but will cause widespread adversity all over the world amongst the debtor nations. I am afraid I have led the discussion a little far from Mr. Brand's opening remarks, but it really all is logically connected, because one must, I think, whenever one talks about these gold questions in any fundamental way, try to get at the realities of the financial system of which gold is a symptom and not treat it as in any sort of way an end in itself, or something that can be discussed without reference to the more fundamental elements of the situation. I will now ask Mr. Brand to reply to the discussion.

Mr. Brand: You will not expect anything more from me. All I would suggest is that as this discussion has been on the question, Why do Central Banks keep gold? it might be well to follow up Mr. Keynes's suggestion, as I understood it, and have another discussion on how it is that some countries keep gold and others do not. Nations are very much like individuals. One man can keep his money and the other man cannot. Why gold flows into one country and out of another is, after all, the fundamental problem underneath everything else. A country like France naturally seems to acquire gold. Why do other countries, like Brazil, not keep gold? If you look at the history of Brazil for sixty or a hundred years you will see they have managed from time to time to get some gold and almost certainly quickly lost it afterwards. The causes leading to the actual distribution of gold constitute a problem well worth pursuing.

Selection of Comments on the Proceedings

Mr. D. Graham Hutton: Both Mr. Brand and Mr. Keynes have stressed the need for some kind of regulation of foreign investment and tide-over credits. The former has demonstrated the danger to the gold standard inherent in the present system of credits to foreign centres; and I think that a closer examination of this problem in the light of Mr. Keynes's concluding remarks may not be out of place.

Following the international depression of 1920 to 1922 we had the slow stabilization of currencies through the gold or gold exchange standard. That was the beginning of a long deflationary period. But, as Mr. Keynes a short time ago pointed out in the Swedish Bank's

Index,[1] with the consequent fall in the world wholesale price level there has been no proportionate fall in long term interest rates. Presumably the reason for this is that an abnormally large proportion of the long term interest rate on the international market has been taken up by 'insurance against political risks'. If only these risks could have been lowered, rates would probably have been lowered *pari passu*, and investors would have been more willing to venture their capital in long term foreign obligations. The actual course of events, however, has been quite otherwise. Funds which might have normally increased the supply of long term international investments have been used continuously as short-term credits to different centres. These short term balances have been abnormally large to the same degree as the long term investments have been insufficient to reduce the long term rate. A short term credit, at a *relatively* low interest rate (though until 1930 at quite a high *absolute* rate), can be withdrawn at once when political risks, or even economic risks, loom large on the international horizon, or else in the imaginations of those who can dispose of funds. The result, as both Mr. Brand and Mr. Keynes have pointed out, is that gold imports take the place of foreign long term investments. These gold movements have consequently led to sterilization; they are on a larger scale, and more frequent than post-War currency conditions can comfortably stand. Moreover, when they do occur they do not redress the price level or the exchange rates as they did before the War, owing to the effect of tariffs, to the centralization of gold in central banks, and to the internal currencies' relative independence of gold movements over and above statutory minima.[2]

The basic problem is therefore to bring about such a set of conditions in the international credit market as will induce a transfer from the enormous international short term funds to long term investments. This action would greatly increase the factors making for stability of the exchanges, since banks like the German Reichsbank and those of Austria and Hungary, which depend to a great extent upon short term credits for the liquidation of national balances, would then be less liable to sudden withdrawals of credit, and to the consequent danger of exchange-depreciation and gold losses below statutory minima. At the same time, the funds which, as in 1929, rushed about the world with each speculative fluctuation, would be lessened;

[1] Keynes: 'The Future of the Rate of Interest.' (In Svenska Handelsbanken: *index*, September 1930.)

[2] See League of Nations: *Interim Report of the Gold Delegation of the Financial Committee*, Annex XIII: *Gold: Supply and Demand*, by A. Loveday.

and a bridging of the gap between short term and long term rates achieved. Without some such stabilization of international credit conditions there can be no continuity of international credit policy, and no concomitant minimizing of large-scale gold movements.

How can this be done?

The Bank for International Settlements was formed primarily to commercialize Germany's political debts on reparation account; but it was also provided in the charter of the Bank for International Settlements that the Bank might buy and sell securities, other than shares, for its own account or for central banks, as well as accommodate central banks against short term obligations of prime liquidity.[1] And in Article 24 it 'may enter into special agreements with central banks to facilitate the settlement of international transactions between them' by operations in gold or foreign exchange, or by any other measures which the Board think fit. It is my belief that, instead of waiting for crises to declare themselves, and then rushing through rediscount accommodation at the last moment, it would be far more scientific, and certainly more in accordance with the logical implications of a Bank for International Settlements, if the Bank were to separate its functions absolutely into those connected with reparation transfers, and those connected with the facilitating of international credit operations. At present this is only so in a minor degree, and the Bank for International Settlements' operations under the latter head are clearly not of a sufficiently influential order. If only the Bank for International Settlements could command sufficient resources in all countries and spread the risks of investment over all of them, it might develop into something like a truly international investment corporation. Bonds might be offered to citizens of all the national States at much lower rates, conformable with the better security offered (and redeemable each year, if necessary).

It is somehow along these lines of development that we can hope for effective international regulation of both short and long term investment, and for a parallel rationalization of gold holdings and movements. (Mr. Crump's remarks on gold holdings at the B.I.S. were an indication.)[2] The anarchy of the present system, together with its recurrent apathy to any form of foreign lending, will, if ignored, lead to a kind of apoplexy in the capitalistic economy—congestion at the centre and anaemia at the extremities.

Sombart has already dubbed our age 'the *embonpoint* of capitalism'. This *embonpoint* must be re-distributed; and then gold movements will be neither so aggravated nor so aggravating.

[1] Article 22, d, e, g, and h. [2] See p. 184 above.

Eighth Meeting of the Chatham House Study Group on the International Functions of Gold, 11th February, 1931.

THE INTERNATIONAL CONSEQUENCES OF THE PRESENT DISTRIBUTION OF GOLD HOLDINGS

BY M. CHARLES RIST

THE HON. R. H. BRAND, C.M.G., in the Chair.

THE CHAIRMAN, THE HON. R. H. BRAND: I do not think any words of mine are needed to introduce to you our speaker to-night, M. Charles Rist. You all know him by name and reputation as being the foremost economist in France, and as having held many distinguished posts, such as Deputy-Governor of the Bank of France, and others. Nobody could be better qualified to explain to us to-night the French point of view on this very important question of gold currency. M. Rist has also had the advantage of seeing other distressed countries besides our own in Europe. He, as you know, has done a great work in Romania, and has also advised the Governments of Spain and Turkey.

I think there is probably a good deal of misapprehension in England as to the French point of view, and perhaps in France as to the English point of view, on these questions, and we shall all be only too glad to hear M. Rist. He begged that he might be allowed to make his speech this evening in French, but when I listened to his English I thought there would not possibly be any difficulty about his explaining his thesis in English, and I told him from our point of view it would be certainly delightful if he could do so. I believe he is prepared to do so provided that if ever he fails for a word some one will prompt him as to the right one.

M. CHARLES RIST: I feel highly honoured in having the opportunity this evening to address a meeting of such eminent and competent men. I feel also a little apprehensive as to my English, and I beg the Chairman to be kind enough to play the role of *souffleur*. Another cause of embarrassment is that the title of this short address is a little misleading.

I am afraid some of you already have very fixed opinions about the question under discussion—that is to say, about the role and effect of the distribution of gold on prices and generally on the consequences of that distribution of gold. I read a few weeks ago in a very able address from an eminent man whom I highly respect the following statement: 'That this mal-distribution of gold is one cause, if not the

predominant cause, of the continuous fall in the general price level, and that it constitutes the most serious menace to the stability of our credit structure is no longer in doubt by any recognized body of economic opinion.' That is rather startling for somebody who does not hold that opinion. My very respected friend and very eminent member of the Financial Committee of the League of Nations, Sir Henry Strakosch, has also, in an extremely interesting report,[1] made a statement showing on the one side the enormous increase in the quantity of gold which pours into the treasuries of the Argentine Republic, the United States, and France, and on the other side the falling of prices in the whole world. That is a very impressive statement, and I am afraid it has impressed very much the minds of many competent people. Again, the title of my paper is rather misleading, because I consider that the movements of gold and the so-called mal-distribution of gold are not a cause but a consequence. Therefore, having to speak this evening about the consequences of that mal-distribution, I must begin by asking your leave to deal with the whole subject quite freely, looking at its different aspects, without holding too rigidly to the title which you have been kind enough to choose for me.

I would like, first of all, to draw your attention to some facts which seem to me to be very important and to throw some light on this whole question. The first is the following one, which among so many distressing elements in the present situation seems to me a favourable and happy one, of which I think our American friends would rejoice as much as ourselves—the fact that the great quantity of gold which used to pour into the United States, the big movement of gold towards the United States which began during the War and continued thereafter in such great proportions, has ceased. Since 1924, the quantity of gold in the United States has practically remained stationary. In 1929, the speculation on the Stock Exchange of New York attracted a great quantity of gold from Europe, but part of that gold came back during the year 1930, and the increase of the gold stocks of the United States during 1930 has come from other sources than from Europe. It came from Canada, Brazil, and also from China. On the whole we all feel that the influx of new gold and of European gold which played such a role during the first years of the last decade in the United States has now finished. So the mal-distribution of gold between continents which was such a conspicuous fact of the first five years of the last decade is now a thing of the past. Although one may regret that, in the continent of Europe at least, this distribution of gold is not equally satisfactory to all countries, still it is satisfactory to see the

[1] *Op. cit.*

end of the abnormal movement which began in 1915 or 1916 and lasted so long.

The second fact which I think is worth examining, and the importance of which seems to me to have been undervalued in the discussions on this subject, is that from 1924, with Germany first, and then with the return of Great Britain to the gold standard, and the return of so many other countries such as Belgium, Italy, and France, the number of countries which are attached to the gold standard is always growing. I have before me a list of these countries. I see that in 1924 two new ones came on the gold standard; in 1925, seven; in 1926, two; in 1927, five; in 1928, four. In four years *twenty* new countries have contributed to extending the area of the gold standard. What was to be expected from that enormous extension? Rising or falling prices? In my opinion, it was reasonably to be expected that prices would go down if a big increase in new gold production did not take place. The level of gold prices in comparison with the pre-War level or, if you prefer to state it otherwise, the diminution in the buying power of gold, was about 60 per cent. That was an absolutely artificial fall, a fall which was due only to the fact that during the War and the years after the War the area of the gold standard countries had been reduced to the one territory of the United States. The increasing production in the United States has been accompanied by an increasing quantity of gold coming into the country. Was it to be expected, with all the new countries either returning to the gold standard or being through stabilization connected with gold prices, that the United States could maintain such an enormous and extraordinary diminution of the buying power of gold? If on the one side stabilization brought the prices of the stabilized countries gradually to the level of the gold prices of the United States, on the other side the incomes of the new gold standard countries were very far from rising in the same proportion—that is, 60 per cent. Nobody can believe that the European countries were able to increase their incomes in such a proportion. So one could foretell that as soon as they became attached again to the gold standard, the insufficiency of the incomes of the European countries would make itself felt, and the level of prices brought about by the extraordinary position of the United States would not be maintained. Add to that the new interdependence between all the gold standard countries which Mr. Winston Churchill described so vividly when he introduced his Bill for bringing Great Britain back to the gold standard in saying, 'All the countries related to it will vary together, like ships in a harbour whose gangways are joined and who rise and fall together with the

tide.'[1] Any fall of prices in the United States was bound to have immediate repercussions on the other countries. Production in the United States having grown enormously during these last few years and the quantity of gold there remaining stable, there is, in my opinion, nothing very extraordinary if the fall of prices in the United States has brought about a similar fall in the other gold standard countries.

The idea that such an enormous loss of the buying power of gold, as resulted in the War and after the War, could be maintained, has always seemed to me chimerical. I have often discussed that question with my friend, Benjamin Strong, whose loss I so greatly deplore. He was of quite another opinion. He thought that, with the big banks and the possibility of enormous credits, one would be able to maintain prices much better than one could do it before the War. I remember, however, his words during his last visit in Paris in 1928, two months only before his death. When we discussed this question, he admitted frankly: 'Well, till now the facts have proved you right.'

Here is another fact which seems to me worth noting before coming to the actual theory of the mal-distribution of gold: it is the first time in the history of financial theories and doctrines that the mal-distribution of gold between the different countries has been put forward to explain the general movement of prices. The existence of great differences in the quantities of gold belonging to the different central banks, or to the different countries, has been noticed very often before. But nobody has ever tried to explain the big movements of prices, either their going up or coming down, through the specific distribution of gold between the banks. For instance, in 1891, Lord Goschen, then Mr. Goschen, made a statement showing that the gold reserves of the Bank of England were only £20 millions sterling, the reserve of the Bank of France being, at the same time, £90 millions sterling, and that of the Reichsbank £40 millions. You may remember, perhaps, that he based upon that statement a proposal that the Bank of England ought to issue £1 notes to get part of the national reserves of gold into the bank itself. But never did he suggest that this enormous difference between the reserves of central banks had any influence at all on the movements of prices. The date at which he made this statement is extremely interesting in the monetary history of the world. It is the period of 1891 to 1895, during which, as you will remember, a great depression in prices was taking place. Many of the features of that period were very similar to the features of the present day. There was a big crisis in the United States in 1893. There were the

[1] *Hansard: House of Commons*, vol. 183, 28th April, 1925, p. 58.

political troubles arising out of the Spanish-American War. There were also the great campaigns of the silver men in America and the great effort of the international bi-metallists to get the whole world to go back to the silver standard internationally. All those things brought confusion into the minds of people, and, especially in the United States, made many people fear that the gold standard would be endangered. But nobody even tried to explain the enormous fall in prices in that period by any other causes than by the high level of goods production and the insufficient production of gold. Nobody even made a reference to the distribution of gold between the different countries.

I take another period, this time not of falling but of rising prices, and I find a very similar position. Sir Inglis Palgrave, who was such an able editor of the *Bankers' Magazine*, which I read with very great interest every month, noticed in 1912,[1] in a very remarkable article, that at the same time as the gold of South Africa was being distributed throughout the whole world, increasing the reserves of almost all continental banks, the Bank of England, instead of showing a growing reserve, lost gold from 1900 to 1912. He recorded the fact, and he admitted that the responsibilities of the Bank of England, with the growing trade of the world and the increasing role of the London market as a clearing-house of the whole world, made it necessary for England to try to keep a bigger reserve, but he never explained the movement of rising prices or the difference in the movement of those prices by the mal-distribution of gold between the different banks. It would be very difficult to maintain that the rise of prices in England during this period was slower than the rise of prices in the other countries of the world. There has always been an almost complete parallelism between the movements of prices in England, in the United States, in France, in Germany, and in all the other great countries of the world. The fact is the more noticeable because if you look at the gold reserves as they stood in 1929, the year to which the Gold Delegation of the Financial Committee of the League of Nations brought forward its first Report, you will find that the distribution of the gold reserves between the different banks at that date was almost the same as in 1913 and 1912 when Sir Inglis Palgrave made his statement. For instance, the reserves of Great Britain were about $720 millions in 1925, as in 1913. The French reserve was something like $1,700 millions at both dates. Italy had $36 millions, about the same as in 1925; and Germany rather more, about $1,000 millions, against $560 millions in 1925. Such differences

[1] *Bankers' Magazine*, March, 1912.

which exist are rather small. There is only one very big difference in the distribution of gold now and before the War, and that is the almost total disappearance of gold in Russia and the enormous increase of gold in the United States.

There is no wonder that nobody at that time tried to explain these big movements of prices by the specific distribution of gold. Every one was then convinced that the influx or efflux of gold in or out of any country was simply the result of the economic situation, and especially of the differences in the balances of accounts. That very old theory had its origin, I think, in London, in the book of a man of great economic repute, David Ricardo,[1] whose theory has been taught to the whole world and whose theory was taught to us when we made our first studies of political economy. The truth of that theory does not seem to me to have been endangered by the facts of to-day. The present doctrine, as I say, is a very new one. I consider it a very interesting thing that a new theory in these matters has been brought out, but you will feel that it is also quite natural that the mechanism of the theory and the analysis of the theory must be scrutinized very carefully. How do the authors of the theory explain the mechanism of this distribution of gold as affecting the general level of prices? In their opinion, as I understand it, some countries are unable to build a reasonable quantity of credit on the insufficient basis of gold they possess, while other countries, having more gold than they need, are unable, through their banking organization or by the will of the governors of their banks, to build upon the gold they have the large structure of credit they should build. Is it true, first, that in countries out of which gold is pouring at the present moment there has been in the last two or three years an insufficiency of credit? Have they really been unable to build the structure of credit they might have wished to build? Has Great Britain, for instance, really suffered from insufficiency of credit during this year or last year? I beg you to excuse and correct any error I may make in this matter; I am simply speaking as a foreign observer. And as such, judging by outside appearances, I do not see in those two years any sign of insufficiency of credit in this country compared with other countries. Comparing, for instance, the official rate of discount in this country with those of other countries, I notice that the official rate of discount in London has always been reduced regularly after the reducing of those rates in New York or in Paris. I have here the table of the market rates of discount; it shows that the London rate has been at times even lower than the Paris rate; for instance, in March, May, October, and

[1] Ricardo: *Principles of Political Economy and Taxation*. 1817.

November, 1930. This does not point to a real insufficiency of capital. Further, the spread between the private rate of London and the official rate during the whole year has almost continuously been greater in London than in Paris or New York. That again does not point to any insufficiency of capital. It points rather to a great abundance of funds on the short term market in London. Here is another figure which is a very good index of the position of the market—I mean the reserve ratio of the Bank of England. It stood during the whole year 1930 (with the short exception of the last weeks of the year, when it is always rather high) between 50 and 60 per cent. To a foreign onlooker that fact seems to show that the Bank could have disposed of a rather large margin of credit if it had been asked to use it. Finally, if I may be allowed to allude to some very recent events mentioned in the papers of last week, the Bank of England is said to have tried to bring the rate of the private market higher than it was. A rather prolonged action on the part of the Bank seems to have been necessary to bring this result about. Reading your most authoritative financial chronicles in the *Economist*, for instance, or in the *Bankers' Magazine*, I see the writers in those journals complaining of the insufficiency of the bills brought to the market. I never see it said that there was any insufficiency of funds on the market to discount these bills. Foreign papers, such, for instance, as the *Frankfurter Zeitung*, which is usually very well informed, directly deny it. In conclusion, I do not find any sign that credits which were needed in London could not be found. How is that to be explained in face of the heavy exports of gold? In my opinion, very simply. London is a victim, as we all are, of a general economic crisis, which has as its first effect the reduction of the trade and business of the country and of the demand for credit, at the same time as the return of a lot of money to the banks. That is a very old and very well-known phenomenon. Even if somebody wished to offer much more credit than is in practice asked for, one would find that the demand for credit is insufficient to balance the credit which could be offered. Hence the very low rates which are characteristic of all crisis periods.

Turning now to those countries whose reserves of gold are increasing, I find that the same circumstance which explains the position of the market here can also be used to explain the state of things in the United States or in France. In other words, the influence of the crisis on the credit situation largely offsets any influence which the influx of gold into those countries could have had. What has happened in France and in the United States? In both those countries you find in the years 1928, 1929, and 1930, two contradictory movements:

first a great expansion of credit and then a great diminution, the influx of gold into the United States and into France remaining continuous. In other words, the deliberate will of the banks of these countries seems to have had very little to do either with the expansion or with the contraction of credit. Take Paris, for instance. You will find at the end of June, 1928, a total of credits made by the Bank of France amounting to five and a half milliard francs. In June, 1929, it has risen to 10·4 milliard francs. The next year, in the middle of 1930, you find credits reduced to eight milliards, while at the present time, at the end of 1930, the amount of credits is the same as it was at the end of 1929. In fact from the end of 1929 nobody has demanded any more credits from the banks. The Bank of France was perfectly ready to give these credits. The Bank of France diminished its rates of discount one month after another, but nobody came to ask for those credits. Why not? Simply because the crisis had broken out. The consumers were not ready to buy the goods for which the entrepreneurs ought to have demanded credits. Perhaps I may be allowed to quote here from a most interesting and pleasing book which my eminent friend Mr. Hartley Withers wrote some years ago, called *Bankers and Credit.* I think he has given for the crisis of 1922 the precise explanation of the facts. 'In 1919', he said, 'conditions were quite normal, with prices soaring so fast and furiously that producers and merchants might well think that hardly any rate for money could make it advisable to take in sail. In normal times a few turns of the bank-rate screw might certainly be counted on sooner or later to produce the desired effect'—this is the point which I want to emphasize—'but when the wind is on the other cheek, when depression prevails and it is desired by lower money rates to induce enterprise to tuck up its sleeves and get to work, no such success can be expected with any confidence. If people think that any business that they do is likely to involve them in loss, they would evidently be born fools to do it, even if the money needed was lent them for nothing.'[1] It is exactly the same thing with gold. You can pour gold into a bank. If the gold pours in during a time when business is very slack and when people have not the courage to take up new business, that gold cannot be used to make credits. Mr. Strauss, one of the members of the Federal Reserve Board, told us in 1921: 'No rate, however low, will tempt borrowing for the purpose of purchasing a commodity whose price is believed too high.' I find, again, an important illustration of this fact in the period 1891 to 1895, which, as I have already said, is one of the most important in the monetary history of the world. During that

[1] Withers: *Bankers and Credit.* 1924. (London: Murray.)

time the new gold of South Africa went into the banks of issue with extraordinary rapidity and amplitude. The reserve of the Bank of England, for instance, doubled in five years from £22 millions sterling, if I remember rightly, to £44 millions sterling. The reserves of all other great banks grew also very rapidly. But if you look at the portfolio of those banks, at the 'other securities' in the Bank of England, and 'discounts and other advances' in the various great banks of Europe, you will find it continuously diminishing. Why? Simply because we were in a period of great cyclical depression, when people do not demand credit, and during such periods it is absolutely impossible for any bank to persuade people to demand what they do not need.

This brings me to one observation which perhaps is not quite within my subject, but, however, seems to me very important. I do not think that in these last years there has been too little credit. I am a strong believer to the contrary—that there has been too much credit during the last five or six years. When a government creates money, that money is used by the consumer, so that you are creating incomes at the same time as you are creating business and producing goods. But when a bank creates credit it gives the credit not to the consumer, but to the entrepreneur, and the entrepreneur does nothing else than anticipate the buying possibilities of the consumer, so that there is not a creation of buying power but simply an anticipation by the bank of the possible buying power of a possible buyer or consumer. When the real incomes of the consumers do not correspond to this anticipation you have a crisis. The present crisis has originated in the impossibility for the consumer to continue to buy at the same prices the increasing quantity of goods which he himself had contributed to create by investing in former years so much in new enterprises. Why and how this maladjustment between consumption and production has taken place it is not very easy to make perfectly clear. It is a very old discussion among economists to explain that fact, and I will not produce any new or even any old theory about it. The fact is that from time to time, every eight or nine or ten years, such maladjustment takes place. Such a maladjustment was gradually taking place in the last two years, *but it was not felt as soon as it ought to have been felt.* Why was it not felt? Because too much credit was given. I would only mention here two major circumstances which seem to me to point to that conclusion. The first is the too long time taken by the *de facto* stabilization of the franc. From 1927 the Bank of France has bought or received enormous quantities of foreign moneys from people who demanded francs. What did it do with those foreign moneys? It left

them on the markets where it had bought them. As a consequence, this enormous buying of francs, instead of bringing, as it ought to have done, an inflow of gold into France, maintained the same monetary redundancy on foreign markets. The result was an enormous creation of francs in France itself, which made it possible for the French Government to repay to the Bank of France the advances it had received during the War. That is one point. But there is another. When the Bank of France began to buy gold itself in those markets in which it had big deposits, especially in the United States, what did the Federal Reserve Bank do? The Federal Reserve Bank bought on the market an amount of government security exactly equivalent to the amount of gold which was earmarked by the Bank of France. It created on the market exactly the same quantity of dollars which were taken out in the shape of gold by the Bank of France. I do not want to criticize that policy—I admit that it was justifiable at that time—but what was the result? It prevented the natural outflow of gold out of a country which was buying at high speed all kinds of shares, bonds, and goods in France. These two policies had the same result: by increasing the amount of credits on the world markets, they prevented the disequilibrium already existing between consumption and production from being felt as soon as it ought to have been. To-day, some people are advising other countries, for instance France, to create more credits—in other words, to use these same means which in my opinion have contributed to intensify the present crisis. I cannot but feel that those who advocate such methods, and still more those who would adopt them, assume a very big responsibility. Such methods do not seem to me at all able to improve the maladjustment between prices, consumption, and production. I feel, on the contrary, that they have very largely contributed to prevent an adjustment which could have taken place earlier. I apologize for having said something about the present crisis which does not quite belong to the subject I am discussing before you. I think, however, that that aspect of the crisis has an important bearing on the present discussion.

In conclusion, when you look on the one side at the growing quantities of gold which are pouring into France, the United States, and the Argentine Republic, and on the other side at the fall in prices, I am perfectly willing to admit that there is a correlation between these two movements. But instead of considering the pouring of gold into these banks as the cause of the depression of prices, I see in that depression the real cause of the mal-distribution of which you are complaining.

There is one difficulty in this whole question which I cannot avoid mentioning. The mal-distribution of gold has been very often criticized, but nobody has told us what a good distribution of gold would be. Such a definition, however, would be very helpful to provide some common ground on which people could judge the situation. Up till now this definition has not been given. Perhaps, instead of a clear-cut definition, some hypothesis would bring us nearer to a useful conclusion. We could admit, for instance (and I am perfectly ready to admit it), that it would be better that part of the gold which is pouring now into France and into the United States should remain in London, which is without any doubt the greatest money market of the world, a market whose prosperity is a matter of the utmost importance to us all, as we all know the beneficent influence and the gigantic rôle which it is playing for the good of the world commercial community. Anything which makes that market uneasy must make everybody uneasy in all the other markets of the world. I am perfectly prepared to admit that if not the ideal distribution, at least a better distribution of gold would exist if some of the gold which is here would not pour out to a place where nobody uses it and nobody wants it—it would be better if it were not exported to France.

Suppose also that we are all in agreement on the procedure which would bring back some of that gold to Great Britain. Now if that took place, what would be the consequences? Probably you will all agree with me that, even if a substantial quantity of that gold were brought back to London, it would not remain here very long, if at the same time the balances of accounts of Great Britain, France, and the United States remain as they are. In other words, the real thing to look at, in my opinion, is not the momentary outflow or inflow of gold, but the organization and the constitution of those different balances of accounts.

To begin with Great Britain—and I must apologize again for expressing an opinion about a situation which you know so much better than I do—your country, with an energy which we all admire, immediately after the War, even before it had returned to the gold standard, took up again the great role of lender at short term and at long term which it had before the War. This position of lender had probably something to do with the complaints, which were already very numerous before 1914, that it was so difficult for this country to keep the gold which it received from everywhere. Why was it difficult? Because, by an admirable trade and banking organization, Great Britain did not find any use for more gold than was absolutely necessary to it—but re-lent to other countries the majority of that

gold as it came in. That leads one to believe that if gold were sent back to this country this great role of lender of the London market would immediately begin again, or would continue on a higher scale as soon as the next revival of trade would begin; and we would probably see part of the gold which by hypothesis would have been brought back here flowing very rapidly out again to other countries, perhaps not to France, but to Germany, or to the Netherlands, or to the United States. If I take the balance of accounts of the United States, I think, without insisting on it very much, every one of us here would say that the States, if they did not prevent by such high barriers the free importation of goods, would take less gold than they do now. If the United States would admit more readily than now that they have a great mission in lending money to a Europe so greatly impoverished by war, that also would diminish the quantity of gold which flows into that country. But I do not well see by which arguments we could persuade our good friends in the United States to lower their barriers, or to lend to a European continent whose political situation seems to them hopelessly troubled. Both these circumstances make it more than improbable that we shall see in coming years any great changes taking place in the balance of accounts of that promising continent.

I am afraid I have already detained you too long, but I should like to say some words about the situation in France in this respect. Our balance of accounts at the present time is such that our income accounts are very high. We have lost a great quantity of interest from the big Foreign Portfolio, which we had before the War; but that loss has been partly compensated by the enormous influx of foreigners coming every year into France, whose expenses are much higher than they were before the War, and also partly by the fact that the Dawes Plan, and now the Young Plan, bring every year some substantial sums, which are not so big under the Young Plan as they were under the Dawes Plan but which contribute to make our balance of accounts a positive one. I do not think that all these sums remain in France. It is very often said that we are lending too little to other countries. That is only partially true, because, if my information is correct, the individual French investor, through the foreign banks in Paris, is lending a substantial quantity of capital to other markets, especially to the American market, but sometimes also to the British market. My friend Mr. Meynial, who for years has made a very careful estimate of the French balance of accounts, estimates that in 1929 seven milliards of francs went out of the country in that way. But I am prepared to admit that this lending to foreign countries could be very

much increased. Instead of individuals investing sporadically on foreign markets, we ought to have, and we could have, much bigger loans, issued publicly on the Paris market. Such issues would help to modify our present balance of accounts. However, before that can take place one has first to persuade the French investor, who is much harder to persuade than the banks, or even the central banks, that he has a complete security and absolute guarantee in lending to other countries. If it is a question of buying shares in the United States, they were only too ready to do that. They did it in 1927 and 1928. It is true that the result in 1929 was very bad. So that even investing in the United States, which seemed to be a kind of economic island in the disturbances of the world, does not seem as secure as it was before. The French investor is a very timid person. Perhaps in Great Britain you also have investors who are timid persons; but in France they are probably even more timid. If they could be persuaded that there will be no war in the Balkans, no revolutions in South America, no financial troubles in the United States or in Canada, I think they would immediately and rapidly lend their money to all those countries with the greatest satisfaction, as the interest they could harvest is still higher than it is in France. But till now these conditions do not exist. You must also realize that till the year 1928—that is, till the stabilization of the franc which took place only two years ago—our whole legislation, which was an emergency legislation, had as its aim to maintain French capital in the country. The flight of capital was till then the great terror of every government and parliament. Practically speaking, it is only since the last two years that one can really think in France of lending to other countries systematically, or of carrying out that policy which before the War had always been the policy of France. I am perfectly sure it would contribute substantially to bring about a more satisfactory situation in the gold movements of the world.

If I may make a suggestion at the end of this already too long speech, which you have been so kind as to listen to with such great attention and patience, I think that as the distribution of capital is practically the real thing which matters (because the distribution of gold will follow the distribution of capital), if some kind of co-operation could be brought about in these matters, in such a manner that the capital of the United States, of Great Britain, and France could be made to co-operate in the same direction, every one of those markets taking some of the risks of the investments, the too abundant capital of the one helping momentarily the insufficient capital of the others, then a very satisfactory result could ensue. The co-operation

of those three countries would probably bring the debtor countries, whose financial situation is not quite secure, to admit more readily the necessity of giving necessary securities to the lenders. This is a very important point in the present situation of Europe. It is rather difficult to persuade young nations, which are justly proud of their recent political successes, that they are not in matters of finance absolutely on the same level as the greatest countries of the world. As the latter have not always given the best example to these small countries in financial matters, it is not easy to explain to the small ones that the big ones are absolutely sound and have a good conscience, but that they, being small, must have a bad one. Again, if these three countries could be prepared to co-operate and to go arm-in-arm, the timid investors of whom I was just now speaking would probably feel a little more encouraged to invest. When eventual losses are to be suffered by one country, the investors of that country are apt to think that the risk is too great. The distribution of risks on different markets gives them more courage. They are apt to believe sometimes more readily in the thoughtfulness of the leaders of other markets than of their own. In a word, this whole question of the distribution of gold comes practically to a question of the organization of investments. I think it is in this direction that the solution of the vexed questions of to-day can be reached. I do not pretend that it will be found immediately. I do not pretend either that it is easy to find; but I think this policy of co-ordinated or co-operative investment is the only one which, coupled with a policy of an easier inflow and outflow of goods, will help to make this perplexing problem of the distribution of gold disappear from our minds.

Discussion.

THE CHAIRMAN, THE HON. R. H. BRAND: I am sure we shall all wish to thank M. Rist for his excellent and comprehensive paper, though we may not agree with it all. I will therefore ask anybody who has any criticisms to make, if they will now give us the benefit of their views.

MR. R. G. HAWTREY: I should like to start by saying how greatly I admire the excellent lecture of M. Rist. I was very much struck to find how unnecessary any apology was for giving it to us in our own language. I am sure we all very much value the extremely lucid, interesting, and full expression of his views that we have had put before us.

There is such a variety of points that interested me in the lecture that I cannot deal with more than a very limited number of them; and I am sure M. Rist will forgive me if I rather fasten on those on which I should be inclined to differ from him. In the first place, he said that this view of the mal-distribution of gold affecting the world price level was new. I do not think it is altogether new. It takes different forms at different times. M. Rist went back several times to the period of the early 'nineties, the depression associated with the Baring crisis and the American crisis of 1893. That was the culmination of a long period of depression, a period of depression which was started by the shifting of Germany to the gold standard in the year 1872. Germany in that year suddenly absorbed gold to the value of £50 millions, representing two entire years' gold supply as it was at that time; and representing I do not know exactly what percentage, but something comparable to 10 per cent. of the entire world monetary gold stock. That precipitated a very violent fall in commodity prices; and it was followed by the general adoption of the gold standard, which, when I was first being taught on this subject, economists regarded as the cause of the very heavy fall of prices that ensued between 1873 and 1896—a fall of about 40 per cent. The stagnation of trade that existed in the early 'nineties I think is quite rightly traceable to that change in the distribution of gold, the change then consisting in the substitution of gold for silver; but the economic consequences are entirely similar to those of the substitution of gold for paper. I merely refer to that on the one hand as showing that the problem is not a new one; and on the other hand as showing that the state of affairs in the early 'nineties is really an example in support of those economists who regard the recent collapse of prices as due, I will not say to a mal-distribution of gold, but to a change in the distribution of gold. Personally I do not regard the mal-distribution of gold as being by any means solely responsible for the fall in prices. In my view there is a very large redundancy of gold at the present moment. M. Rist I think quite properly called attention to the fact that the banking reserve at the Bank of England is and has been ample. There has been nothing to prevent the Bank of England from giving ample credit facilities for a year or two back. The fact is that this country has a redundancy of gold, and we ought to take steps to get rid of more of it. We ought to be extremely grateful to those two countries, to the United States and France, which have been good enough to absorb hundreds and hundreds of millions of gold, at enormous expense to themselves, thereby relieving the rest of the world of that expense. That that results in a mal-distribution of gold in a

sense is, I think, indisputable. I do not know why France, with one-ninth of the national income of the United States, should need half the amount of gold; or why, with half the national income of Great Britain, it should need three times the amount of gold. The reason is simply the legislation by which the central bank is governed, coupled with the difference in habits, which makes the public in France prefer to hold their means of payment in the form of legal tender paper instead of on current deposit at a joint-stock bank. The result is that a very much larger proportion of the purchasing power held by the public in France has to have a backing that is narrowly defined by the central bank statutes. M. Rist quoted the figures of the discounts and advances of the Bank of France. According to some standards they have been very substantial; and they are still very substantial; but they are almost a negligible factor in the great problem of providing the backing for the obligations of the Bank of France, which at present exceed 100 milliards of francs. The discounts and advances are about one-tenth of that sum, leaving 90 milliards to be covered, of which 9 milliards is a more or less fixed advance to the Government; but the whole of the balance has to be covered either by gold or foreign exchange. The holding of foreign exchange by the Bank of France is already quite as large as it could reasonably be expected to be. The result is that there is nothing for it but to absorb gold, not only to cover the note issue of the Bank of France, but in addition to cover whatever balance the Government of the country think fit to hold on current account. I should mention that, in being very grateful to the French for bearing the expense of carrying this redundant supply of gold, we ought incidentally to include the French Government, which forgoes interest upon a very considerable sum in order to hold an idle balance equivalent to £115 millions sterling at the Bank.

I think the leading fact is that the legislation governing the Bank of France is unfortunately so inelastic that it cannot help absorbing gold. It is in the position of a boa-constrictor which starts swallowing a goat—it cannot stop. There is a sad story of two boa-constrictors at the Zoo. The husband and wife unfortunately got hold of the same goat. As it was quite impossible for either of them to stop swallowing, it was absolutely inevitable that the one should swallow the other. I do not want to press that example too far in its application to the present monetary situation; but it illustrates the inevitability with which the Bank of France, governed by the legislation of 1928, combined with that of Napoleon, is compelled to go on swallowing the world's gold; and, of course, they might swallow all the gold in the

world at that rate. So long as the demands of the Bank of France are reasonable, that is, that they do not involve taking more than the annual supply, I think the right procedure is for the rest of the world to meet them. I think a solution of the present difficulty is simply for the Bank of England to rearrange its affairs so that, instead of having the present quite excessive reserve of £140 millions, it gets on with the sort of reserve it used to have before the War, increased in proportion, say £50 millions or £60 millions. If it did that, I think there is no reason why the world should suffer from a scarcity of gold at all. There is no other country besides the United States and France which is absorbing gold to any amount. Occasionally Switzerland, Germany, and Belgium take a little; but the absorption threatened by them is negligible.

There is just one other point that I should like to refer to. It is a point of theoretical analysis, and one, I think, of considerable importance. M. Rist said that in recent years there had been not too little creation of credit, but too much. He pointed out that credit is created in favour of producers, and the result is more production, that is, production with a view to future demand, which may not necessarily materialize. My criticism of that analysis is this: people borrow money in order to produce. They use the money in order to pay the incomes of the people who produce, including their own profits. Those payments appear in the form of income at an *earlier* date than the product. If you create credit in favour of the producers, the demand materializes at once. The difficulty at the present time is, as M. Rist quite properly said, in the reluctance of borrowers to borrow, not the reluctance of bankers to lend. I absolutely agree with that. The trouble is to get over the reluctance of borrowers to borrow. It is because they do not borrow that these incomes are not created; and just because the incomes are not created, the goods they might buy are not created. The fact that the goods cannot be sold is the reason why the money is not borrowed and the incomes are not created. There is a vicious circle. If you ask how the vicious circle began, it began at a time when the bankers were *discouraging* borrowers from borrowing in the years 1928 and 1929. That once secured, it was quite unnecessary to give any further discouragement to the borrowers. When the bankers choked them off to begin with, the shrinkage of incomes had begun; and the shrinkage of incomes, along with the shrinkage of production, has continued ever since. If you reduce production by 20 per cent. and reduce prices by 20 per cent., you reduce the total income by 36 per cent. That is the kind of thing that has occurred. It is that shortage of incomes, and therefore that

shortage of demand, which deters people from borrowing money for the purposes of production. The only remedy is that somehow or other the borrowers could be given an inducement to restart borrowing. The natural instrument in our hands is not the borrowers but the lenders. The duty of the central bank is to stimulate the lenders to lend, and to advance the efforts of lenders to find willing borrowers; and, if they cannot find willing borrowers, to find other means of investing their money which will at any rate start it circulating. I think that is the remedy for the present situation. The obstacle at present is not the absorption of gold by the United States and France, but the effect of the absorption of gold by the United States and France upon the credit policy of the rest of the world. The credit policy of the rest of the world, practically speaking, means the credit policy of London. London is to so great an extent the leader in the international money market that its influence has been decisive. Its influence for the last few years has been consistently, with some vacillation in the course of 1930, on the side of contracting credit; and, therefore, bringing about this reduction of price levels all over the world. I think that is a true analysis of the situation. I do not think it differs so very fundamentally from M. Rist's; but the point of view is so different that I think the practical application would also be different.

MR. OWEN FLEMING: I should like, if I may, to add my testimony to that of my friend Mr. Hawtrey, as to the excellent paper to which we have had the honour of listening to-night from M. Rist. The distinguished career of M. Rist in Paris, on the Economic Committee presided over by Mr. Sergent, of which he is a member, and his international reputation as a Professor of Law, make it extraordinarily difficult to say anything which is in any way contrary to the argument he has put before us. But there is one question that he himself has asked as to which perhaps we ought to come to some conclusion, namely, if what is occurring is a mal-distribution of gold, what should we regard as a correct distribution of gold? Now should not gold holdings bear some kind of relation to populations? If a country with, say, 40 millions of inhabitants, such as France, has a certain need for gold, then a country of smaller population should have a proportionately smaller need. As far as Europe is concerned, I think this mal-distribution of gold, if I may use the expression, began roughly about four or five years ago. About 1926 the French holdings and the British holdings were approximately equal. Since that date, as we all know, the French holdings have been gradually increasing. By August 1929 the holdings of France had so grown as to exceed the

combined holdings of England, Holland, Belgium, and Germany. Later on, in July of 1930, Switzerland joined the company, and now in 1931 we can add Italy. Those six countries, England, Belgium, Holland, Germany, Switzerland, and Italy, have a combined population, roughly speaking, of 170 millions. France has a population of 40 millions; but France and those six countries added together have approximately the same quantity of gold. The 'fonds roulants' in France must be very much greater than in the other countries. Let us think for a moment about these 'fonds roulants'.

Every company, indeed every individual engaged in trade, needs the command of a certain quantity of credit to cover the fluctuations between his purchases and his sales. This 'working capital', called 'fonds de roulement' or 'Betriebsmittel', is an essential to every trader in every country. Without it, trade would be impossible. If it is not adequately available, traders are compelled to cut down their businesses. If they do not do this, their businesses will cut them down. This action, however, of cutting down their businesses compels them to deprive some of their workpeople of their employment. Those people, in turn deprived of their own little 'fonds de roulement', find it necessary to appeal to the State in order to live, and so a vicious circle is established, lowering the selling power of all those countries, and consequently also the selling power of those other countries to which normally they sell their goods.

Nothing has been said to-night at all about unemployment, yet if M. Rist habitually reads the *Labour Gazette* of England and the *Reichsarbeitsblatt* of Germany, he will have seen the unemployment curves running right up into the sky. Is that a cause or a consequence of this mal-distribution of gold? It seems irrational to me that two-fifths of the gold holdings of forty-five countries should be concentrated in two of those countries. Would it not be possible to arrive at some international understanding or agreement whereby this gold should be spread a little more evenly over the different countries of the world?

I am not very clear as to the French attitude on this question. Does France really like this gold coming in, or would she prefer that it did not come in? Nor am I quite sure either about the British attitude. I gather from Mr. Hawtrey that the more gold goes out, up to a certain point, the better he is pleased. I am not quite sure that I find myself in accord with this view. It is quite true that on balance Great Britain has not lost much gold. But the gold that has gone out of Great Britain into France has been replaced by gold coming from countries which really can hardly afford to part with their gold, such

as Brazil, Japan, and Australia. The same remark applies to the United States. With the greatest possible deference to the remarks with which M. Rist opened his paper, I do not think that gold has ceased to flow into the United States, but the course of the flow has been diverted. I have here the Reports of the Federal Reserve Board for 1930 and 1931. The figures show that in 1929, $292 millions of gold were imported into the States and only $116 millions exported, showing a surplus import of $176 millions coming from countries such as Canada, the Argentine Republic, Germany, and various States in South America. When you come to 1930, the same thing applies. Up to November 1930 the imports are $363 millions and the exports $116 millions, showing a surplus import of $247 millions coming from Japan, Brazil, China, Mexico, the Argentine Republic, and from other smaller places. Although there are few gold imports from Europe, this inflow from other countries sets up difficulties in those countries which do react on us in Europe. The fall in Brazilian securities and in Australian securities, for example, affects us materially.

There is just one other point I should like to refer to. I was much interested in an able article recently published by M. Rist's colleague, M. Francis Delaisi.[1] M. Delaisi has examined the economic situation in Europe resulting from the severance of the agricultural countries from the industrial countries during the War. He gives some very extraordinary and remarkable figures showing that the diversion of the wheat supply from East Europe to overseas has resulted in a most difficult situation for Europe as a whole, and particularly for those countries. Those countries, eight of them I think, from Latvia to Greece, have assembled several times together and have passed many resolutions on this subject. I think they have established a Central Committee which is in communication with France. I am only wondering whether France at the back of her mind is building up this great gold reserve in order to assist in the re-establishment of that connexion between Western Europe and Eastern Europe which was broken by the War, and whether she will incidentally cut off by high duties the import of overseas cereals into France and into Europe. Now no one would do other than heartily commend the very humane and reasonable policy outlined by M. Delaisi, but such a policy will naturally have reactions upon the economic life of this country and also of that of the British Dominions. I think that perhaps is some explanation of why there is in London a certain amount of misgiving at so very much gold going to France. This flow is not ceasing, but

[1] Delaisi: 'Après les conférences agraires de l'Europe Centrale.' In *Revue d'Économie Politique*, vol. lxiv (1930), p. 1329.

really its rate of flow is on the increase. In 1931, we have only to-day reached the 11th February, and yet in these five weeks that have passed £8½ millions of gold have crossed the Channel. It is that position, I think, which is causing concern in the City, and with, in my humble judgement, some ground for the concern.

SIR HENRY STRAKOSCH: Mr. Chairman, M. Rist was good enough to refer to some remarks I made in a paper[1] which was published in July last year—both in a paper published in the French *Revue d'Économie Politique*[2] and in the course of his speech. I would like to take up one point, which is this. I believe Professor Rist thought that the expression I used, that France had been guilty of sterilizing gold, was not a true presentation of the case. I would like now to tell Professor Rist what has led me to that conclusion. Before doing so, I would like to refer to a remark that he made, that the movement of gold to France was a perfectly natural thing and in complete accord with what Ricardo has taught us. But I think that Professor Rist omits (I should like to be corrected if I am wrong) to consider in what circumstances the stabilization in France has taken place. If France had stabilized her currency at a point at which French prices were in equilibrium with prices in other gold standard countries, then I would agree with him; but I believe that is not true. I believe that France stabilized her currency at a point which was completely out of joint with world prices; that is to say, she stabilized her currency with the franc having an internal purchasing power largely in excess of its external purchasing power. That fact brought with it a necessary movement of gold into France in order to establish the equilibrium. Therefore, to the extent to which gold moved into France to establish the equilibrium that Ricardo presupposed, to that extent the gold flow is not a natural gold flow.

I want to give you a few figures to show how stabilization has taken place, but, before doing so, I would like to refer to the experience that the Financial Committee of the League of Nations has had in practically every one of the countries where stabilization took place, namely, that the internal purchasing power of the currency after inflation was far in excess of its external purchasing power, and that it was in all cases necessary to give a last bout of inflation in the country before stabilization was taken up, in order to give the country the amount of currency which was needed to bring the internal

[1] *Op. cit.*
[2] Rist: 'La question de l'or.' In *Revue d'Économie Politique*, vol. lxiv (1930), p. 1489.

purchasing power into relation with the external purchasing power. The following figures will show what is moving in my mind. I am taking the *Statist* figures, and I am taking the wholesale home industrial index-figure of France which is published, I believe, by the Bank of France, or which is included in one of the Bank's statements. The *Statist* index-number in England for 1928 was 147, and in November 1930 it was 107, that is to say, a fall of 27·1 per cent. In France the index-number of the home industrial figure in January 1928 was 120, and in November 1930 it was 115, that is to say, a fall of 4·1 per cent. in prices. But the Bank of France also published a wholesale index of imports into France, and there I have the following figures: January 1928, 136; November 1930, 80; that is to say, a fall in prices of 41 per cent., which clearly shows that the adjustment of the internal and external purchasing power of the franc had to take place.

As to gold movements, let me take first of all the note circulation of the Bank of France. The note circulation of the Bank of France rose from the middle of December 1926, when *de facto* stabilization took place, to the end of 1930, by 23½ milliards of francs, or £185 millions sterling. The gold stock during the same period rose 37 milliards of francs, or £297 millions sterling. The foreign exchange purchases by the Bank of France amounted to 25½ milliards. In other words, the Bank of France acquired during that period a total of 62½ milliards of gold and foreign exchange. There is a discrepancy of 39 milliards, because there are only 23·5 milliards of notes issued. We have to try to account for that difference. I believe it is due, to the tune of about 5 milliards, to an increase of deposits, mainly savings bank deposits, in the Bank of France; as to 18 milliards, or £145 millions sterling, by funding the floating debt of the State with the Bank of France by long term borrowing in the open market, and finally about 14 milliards, or £113 millions sterling, which have been tucked away in the Caisse d'Amortissement. You have therefore this picture. France seems to have sterilized 39 milliards of francs, that is to say, £350 millions sterling. I say that in order to explain what led me to the conclusion that gold had been sterilized in France.

There is just one other thing I would like to say. M. Rist quite rightly said that at the present moment there is no lack of credit, and that in fact there was no lack of credit right through the year 1930. I agree with him. I would say also that at the present level of prices there is no dearth of gold anywhere. But how was that superabundance of credit brought about? It was not brought about in 1930, but it was brought about very plainly in 1929, when, owing to what many people believe to have been a faulty credit policy in the United States, the

rest of the world was driven to raising bank rates all round—in other words, causing a world-wide deflation, which has caused a world-wide fall in prices, and that in turn has made credit abundant.

MR. H. D. HENDERSON: As my remarks, like those of others who have spoken, will be mainly of a critical nature, I would like to say first how enormously I appreciated M. Rist's extremely lucid address, and also I should like to say that there is a very large part of it with which I think most of us would agree. One naturally tends, in discussion, to call attention to the points on which one differs. But I think most of us will agree with what I gather is M. Rist's main contention. In protesting against the term 'mal-distribution of gold', I think he is largely moved by a desire to protest against the suggestion that there has been an element of deliberate French policy in the recent movement of gold into France. His point is that, given the various regulations and customs that obtain, the movement that is taking gold to France, and not on balance to London, is in a sense a natural movement, influenced by the balance of payments, and so forth. I think that is common ground, or certainly a large number of us here would agree with him in that. It is further true, as almost every speaker has admitted, that once the present world slump has been started off and the whole vicious circle is wound up, no restriction of credit, certainly not in England, is an operative factor in the maintenance and deepening of the depression. Monetary influences, in so far as they do apply, clearly apply by helping to precipitate the depression, and may apply later on in the stage of revival, but they do not apply at all while you are in the middle of the vicious circle.

I come now to my criticisms. As I understand M. Rist, he does not dispute, and in view of much that he said he cannot dispute, the influence which monetary conditions—I deliberately use a vague term for the moment—have exerted on the course of prices over the last five or six years. One of the points that he mentioned once or twice was that it had always been his view that it would be impossible to sustain a price level so high in relation to pre-War as prevailed before the slump on the basis of so small a quantity of gold as is available throughout the world. In other words, he attaches a governing importance to the quantity of gold as a factor in the downward movement of prices over recent years. Yet, as I understand him, he is inclined to dispute that the rules or practices which determine the quantity of gold which the central banks keep against a given volume of credit play any part at all in influencing the price level even over a long period. That is where I find it very difficult to follow him. One

of the factors which he mentioned himself as operating in recent years was the circumstance that so many countries were returning to the gold standard and therefore increasing the pressure on the available supplies of gold. Is not that exactly analogous to what happens if a particular central bank so alters its regulations, or is permitted by the law to alter its regulations, that it can maintain a given volume of currency or credit on the basis of an altered quantity of gold? The quantity of gold that is relevant to the price level is the quantity of gold that is necessary to maintain a given volume of currency and credit. Any change which enables a central bank to maintain a larger volume of currency and credit will be just as effective on the price level, whether it is attributable to a change in the total quantity of gold in the world or to a change in the proportion of gold to the volume of credit that it maintains.

I think M. Rist tended to draw a rather sharp distinction between the increase of currency on the one hand, whether that took the form of paper issued by the government or gold brought to the bank from the outside, and, on the other hand, an increase of credit, suggesting that the former would help to make prices move upwards, because it put more money in the hands of the consumer, while the latter would be stultified because it only increased the purchasing power of the producer. I do not think one can get a very fundamental distinction there, because, in addition to what Mr. Hawtrey has said—that the purchasing power will work round quickly from the producer to the consumer—I doubt if an increase of currency usually operates to any important extent, except through facilitating an increase in the volume of credit. Perhaps, however, I am not doing justice to M. Rist's position.

To get back to the main issue, I would say again that I think it would be unreasonable to suggest that there has been any deliberate policy on the part of France of trying to draw gold towards her. On the other hand, if steps had been taken to enable the Bank of France to maintain the amount of credit and currency it does maintain on the basis of a smaller amount of gold, that would have been very helpful to the general international situation. The absence of steps of that kind may be said to be a contributory factor to our present troubles.

When M. Rist asks us what we mean by mal-distribution of gold, my answer would be this. In Great Britain we are maintaining a very much larger volume of credit on the basis of a given amount of gold than we did before the War, but that is not done to anything like a comparable degree in France. M. Rist said that you cannot maintain

a price level of 50 per cent. or so above pre-War on the basis of a pre-War quantity of gold. Certainly you cannot do so unless there is economy in the use of gold by central banks. Unless, therefore, we view with equanimity the severe depression of prices which has taken place in the past year, with all its very formidable consequences, it should surely be a common international objective to secure an all-round economy in the use of gold. M. Rist would not dispute, surely, that given arrangements for the more economical use of gold by the central banks, there would then be no fundamental difficulty in sustaining the price level of 1928 on the basis of the quantity of gold that exists. The suggestion which is made by Britain to France is that it is up to France to play her part, along with other countries, in enabling the quantity of gold that is available in the world to sustain a volume of currency and credit compatible with the sort of price level that we had in 1928, and our essential complaint is that France has not done this.

The Chairman, the Hon. R. H. Brand: I would like merely to say one word. I perhaps take a rather different view from some people here about the fall of prices. I regard it as partly due to too little gold and partly due to too much gold. I agree with Sir Henry Strakosch that developments in the United States led to tremendous withdrawals of capital from Europe and to a restriction of credit in Europe, leading to a fall of prices here. But I also think that the possession of a great deal too much gold in the United States led to a great inflation there, bringing with it an absolutely inevitable collapse. It was that collapse that has caused the fall of prices to be so severe. I feel that the effect of the United States on the fall of prices is sometimes minimized. Even if we had normal times in the rest of the world, a crisis and collapse such as has taken place in the United States would in any case have produced a world crisis, as it did in 1907 and in other periods.

M. Charles Rist: It is not very easy, Mr. Chairman, to answer such interesting and far-reaching observations as those which have just been made. I am very glad that Mr. Henderson has partly replied to some of the observations which have been made. One uses very often these words: 'The demand for gold by France or by the Bank of France', or 'France in absorbing gold has a certain policy in doing it'. The fact is that the gold comes and we cannot do anything against it for the moment. We do not demand gold. The gold flows in through the natural operation of the arbitrage.

Mr. Hartley Withers: Is it true that the Bank of France's rate for advances is still 4½ per cent.?

M. Charles Rist: Yes, that is true.

Mr. Hartley Withers: In spite of the bank rate having come down?

M. Charles Rist: Yes, that is true.

Mr. Hartley Withers: Is that not rather relevant?

M. Charles Rist: For about ten years instead of the difference of 1 per cent. between the rate of discount and the rate of advance, a difference of 2 per cent. has always been maintained. But in fact, if you look at the figures, you will see that the advances of the Bank have grown very little during these last years.

Mr. Hartley Withers: Is not the difference now 2½ per cent.?

M. Charles Rist: I think so. So far as I know, the advances are 4 per cent. and the discount is 2 per cent.

Mr. Hartley Withers: The impression in London is that when the Bank of France came down to 2 per cent. in its official rate for discount, the rate for advances remained at 4½ per cent.

M. Charles Rist: I think so.

Mr. Hartley Withers: That fact makes people wonder whether the Bank of France's reduction in its official rate was really intended to be effective or not. There is a good deal of suspicion about this in the City. As I need not tell you, people are nervous about this matter. Many of them believe that the Bank of France is building up this huge stock of gold as a war chest, and they are talking about war on the Continent in the spring. That is the sort of thing that happens when the imagination of the City really gets busy. They say that it is all very well for the Bank of France to pretend to come down to 2 per cent., but it keeps its rate for advances the same as before; and so, because the French banks charge 2 per cent. above that rate, it keeps the real price of money in France as high as ever, which is why the French banks want more francs, and why they have to bring the gold back.

M. Charles Rist: I have no right at all to speak on behalf of the Bank of France. I can only speak as an observer from without; but the rate of advance has never played a big role in this matter. The quantity of advances has always been very small, and is now at the same level as it always has been. The important fact in what you were just saying is that practically the rate of discount of all the French banks outside the Bank of France is systematically the same rate as the Bank of France. If you go to an agency of the Credit Lyonnais or to any bank in any provincial town, or even in Paris, you will get your bills of exchange discounted either at the rate of the bank, according to the nature of the customer, or perhaps ½ per cent. above the rate of the bank. So that the going down of the rate immediately brings about the falling of the rate of discount in the whole country. On the other hand, what we call the free market, or the market 'hors banque', which exists only in Paris and some big towns, and is concerned only with bills which practically are not discounted at the Bank, has a rate which is always under the bank rate and accordingly falls with the bank rate, exactly as the rate of ordinary trade bills. In other words, the rate for trade bills as well as the rate for bank acceptances and 'hors banque' bills is always regulated (although not exactly in the same way) by the bank rate.

I am very glad to hear that the idea of gold being purposely attracted into France is rejected by Mr. Henderson and by the majority of people here. I do not see how we could demand or attract gold. We do not do that. At one moment we did it; and that was just before the legal stabilization of the franc, to conform with the new legal requirement of one-third. May I say, by the way, that this one-third idea of a reserve comes from here. It is a tradition coming from the year 1830 or 1835. The idea was that the Bank of England should maintain about one-third of its reserves in the Banking Department. I think that is the origin of the one-third idea. Why did we take up that idea in the 1928 law? It was done to give greater elasticity to the Bank issue than before. Till then we had lived under the system of a legal maximum issue, and every time the Bank wanted to make more credit it was obliged to require from Parliament a new law allowing it to put its maximum higher. The aim of the new legal disposition is to *increase* the elasticity of the Bank. As soon as the Bank of France had accumulated the gold corresponding to a 40 per cent. reserve it never wanted to have any more. The gold, which came, came exactly in the same way as before the War. We had at that time a reserve of something like 60 or 65 per cent., not because we

wished to have it, but because the balance of accounts of France was such that the gold flowed into the country. I admit that it was easier then for the Bank to prevent gold going out of the country. The bimetallic system allowed the Bank to defend its gold very easily. The Bank since 1928 has no more any means of preventing the outflow of gold if it takes place. So that the present system brings the working of the Bank of France much nearer to the working of the Bank of England than it was under the old one.

I would like to answer in a few words what Mr. Hawtrey said about the inelasticity of our legislation. We always pretend that we have a much more elastic legislation than even you have in Great Britain. The fact that we only want one-third of gold makes it possible for the Bank to build a much wider range of credit than you can do here in England, with a fixed contingent of covered notes.

MR. HAWTREY: When I called it inelastic, I was not referring to the 35 per cent. reserve. I was referring to the fact that the Bank of France was precluded from buying securities in the open market. It is limited to a very restricted range of assets. The total supply of bills and advances which it can secure of a commercial character is so small that it has no choice but to cover far the greater part of its own issue, its deposits, and the government deposits with gold; so that every franc added to its deposits by its note issue in practice means a franc of gold and nothing else.

M. CHARLES RIST: That would mean a change in the whole conception we have had for more than a hundred years, which I think has been brought to us by Great Britain and by British example.

MR. HAWTREY: That is the British point of view of a hundred years ago, no doubt.

M. CHARLES RIST: No, not a hundred years ago; but it is the theory of all British bankers and economists that an issue bank must be absolutely liquid. I remember having heard many discussions about the reconstruction of all the European banks after the War. The idea was that the first requirement of a bank of issue was to create a perfect liquidity.

MR. HAWTREY: I do not want to interrupt M. Rist, but he is not allowing adequately for British hypocrisy, which always preaches one thing and does the exact contrary.

M. Charles Rist: I must say for my part I would consider it an extremely dangerous thing to adopt a method which would amount to a new inflation of the French circulation. What is the position now? We have 11 milliards of deposits in the Bank. That is more than we have ever had. That shows that people do not know what to do with their money, and put it into the Bank. What would be the result if, in addition to that, the Bank was buying securities? All that money would go back to the Bank and create a higher quantity of deposits in the Bank of France. I must say that the policy of buying securities, which we have followed very attentively in the United States, does not seem to me to have brought about such excellent results as to be imitated in other countries without much reflection.

I am more at a loss to answer the theoretical argument which Mr. Hawtrey and Mr. Henderson put before me, namely, the fact that if a credit is given, the credit translates itself into consumers' income, so that the consumers' income must be always growing as much as the credit grows. I think that was the trend of the argument. Mr. Hawtrey is such a master of theoretical analysis in all these matters that it is extremely difficult to answer such an argument without lengthy development. I would simply say that, if that were absolutely true, an economic crisis would never exist. The more credit would be given, the more production would go on, and the more income would be brought to the consumer, so that we could go on and on without limit. I know that theoretically that is his system. Either we go up or we go on without any limit. The only limit is practically the impossibility of making more credit. So much for the theory. But I would bring to your attention one fact in connexion with it. The fall in prices did not begin in 1929; but it began in 1924 and 1925. I think the explanation of the fall in prices must be carried back to these years. So that when it is said that the restriction of credit in 1929 by the Federal Reserve Bank is the cause, or the axe which has brought down our economic system, I think that is not quite true. It is part of the truth; but the real difficulty is to explain why, from 1924 and 1925 onwards, we have seen world prices going down more and more.

I would be very glad to have a few minutes to answer Sir Henry Strakosch, who put to me a very precise question. If I really understood what he said, he said that the French system has sterilized part of the gold, because a great part of the notes which had been issued with the gold cover, which has come into the Bank, has practically disappeared. Why have they disappeared? Simply because the French notes issued as a counterpart to the foreign moneys which were from 1927 onward offered to the Bank of France on such an

enormous scale have been used by the Government to reimburse the Bank. This enormous inflation of francs, about 30 to 35 billion francs, has not remained in circulation, as Sir Henry very properly observed, because a reimbursement to the bank of issue implies the disappearance of the notes brought back to her. Probably such a reimbursement would never have taken place, if the *de facto* stabilization had lasted less time than it has, and it was the indirect reason by which this inflation of francs did not bring about a more rapid rise of prices than it did. I cannot quite agree with Sir Henry when he said that it was necessary to make inflation in France to bring prices higher. I think our indices are a very bad way of approaching a question, because our indices are very misleading. The index of retail prices is restricted to a few agricultural goods. Now, as you know probably, as soon as the price of wheat falls, the wheat duties are immediately raised. So that our index of retail prices expresses much more this policy than it expresses the true movement of prices in France. I do not think the prices would have moved in any other way than that, even if no gold at all had been coming into France. I think the quantity theory does not work in this direction.

Sir Henry Strakosch: The price indices of which I spoke are not the retail price indices, but they are the wholesale price indices—of internal manufactured and foreign imported goods.

M. Charles Rist: If I understand you rightly, you meant these prices were rising more rapidly, or maintaining themselves, instead of going down, as they ought to have done?

Sir Henry Strakosch: Yes.

M. Charles Rist: But these internal prices contained in the wholesale price index are based almost entirely on agricultural prices. Our index would need to be very much improved to have real significance in this respect. I do not think one can really draw any true conclusion from the figures of our index.

BIBLIOGRAPHY

Compiled by Mrs. Annette Henderson, B.Sc. (Econ.)

I. OFFICIAL PUBLICATIONS

China.

COMMISSION OF FINANCIAL EXPERTS: Project of law for the gradual introduction of a gold-standard currency system in China, with Report, Nov. 11th, 1929. [Kemmerer Report.] 1929. Shanghai. 8vo. 8,182 pp.

France.

Annual Reports of the Bank of France.

Germany.

Ausschuss zur Untersuchung der Erzeugungs- und Absatzbedingungen der deutschen Wirtschaft. I. Reichsbank. 231 pp.

Der Bankkredit. Verhandlungen und Berichte des Unterausschusses für Geld-, Kredit- und Finanzwesen. 1930. 213 pp.

Annual Reports of the Reichsbank.

Great Britain.

International Economic Conference, Genoa: Resolutions of the Financial Commission recommending certain resolutions for adoption by the Conference; Reports of the Committee of Experts appointed by the Currency and Exchange Sub-Commissions of the Financial Commission. *Cmd.* 1650 of 1922.

First Interim Report of the Committee on Currency and Foreign Exchanges after the War, 1918. Final Report, 1919.

Report of the Committee on the Currency and Bank of England Note Issues. *Cmd.* 2393 of 1925.

Royal Commission on Indian Currency and Finance: Report and Volumes of Evidence. *Cmd.* 2687 of 1926.

Report of the Committee on Industry and Finance, 1931. (Macmillan Committee.) *Cmd.* 3897 of 1931.

Annual Reports of the Director of the Mint.

Irish Free State.

Banking Commission: Interim Report, 1926.

——: Annual Reports.

League of Nations.

Currencies after the War: a survey of conditions in various countries. 1920. London. xvi + 254 pp.

Memorandum on Currency and Central Banks, 1913–24. Vol. i, 238 pp. Vol. ii, 314 pp. 1925. Geneva.
International Financial Conference, Brussels, 1920: Papers I–XIV [prepared for the Conference]. 1920. London.
Proceedings of the Conference. Vols. i–iii. 1920. London.
The Recommendations and their Application: a review after two years. Vols. i–iv. 1923. Geneva.
The Financial Reconstruction of Austria: General Survey and Principal Documents. 1926. Geneva. 312 pp.
The Financial Reconstruction of Hungary: General Survey and Principal Documents. 1926. Geneva. 248 pp.
Economic Organization: Report of the Economic Consultative Committee on its First Session, May 14th to 19th, 1928. [C. 217. M. 73. 1928. II.] 1928. Geneva. 28 pp.
Interim Report of the Gold Delegation of the Financial Committee. [C. 375. M. 161. 1930. II.] 1930. Geneva. 120 pp.
Second Interim Report of the Gold Delegation. [C. 75. M. 31. 1931. II.] 1931. Geneva. 22 pp.
Selected Documents submitted to the Gold Delegation.
Vol. i. [C. 374. M. 160. 1930. II.] 1930. Geneva.
Vol. ii. [C. 102. M. 38. 1931. II A. 7.] 1931. Geneva.
Legislation on Gold. [C. 373. M. 159. 1930. II.] 1930. Geneva. 375 pp.
Memorandum on International Trade and Balances of Payment, 1926–8. Vols. i–iii. 1928–9. Geneva.
Memorandum on International Trade and Balances of Payment, 1927–9. Vols. i–iii. 1930–1. Geneva.

Rhodesia.

Annual Reports of the Chamber of Mines.

Transvaal.

Annual Reports of the Chamber of Mines.

Union of South Africa.

Annual Reports of the Secretary of Mines and Industries and of the Government Mining Engineer.

U.S.A.

European Currency and Finance: Commission of Gold and Silver Inquiry, United States Senate. Serial 9 (vol. i). 1925. Washington.
Annual Reports of the Director of the Mint. Washington.
Stabilization: Hearings before the House of Representatives Committee on Banking and Currency. 1928. [H.R. 7895, Pts. I–III.]
Annual Reports of the Federal Reserve Board.
Monthly Bulletin of the Federal Reserve Board.

II. GOLD

ANDERSON (B. M.): Gold: Some observations on the Interim Reports of the Gold Delegation of the Financial Committee of the League of Nations. (*Chase National Bank Bulletin*, March 16th, 1931.)

AONO (T.): Japan after the Gold Ban Removal. 1931. Kobe.
Collected articles.

BERRIDGE (W. A.): The World's Gold Supply. (In *Review of Economic Statistics* [Harvard], July 1920.)

BIRUKOW: Das russische Gold auf dem Weltmarkt. (In *Ost-Europa Markt*, Feb. 15th, 1929.)

BORIS (G.): Problème de l'or et la crise mondiale. 1931. Paris. 156 pp.

CAILLAUX (J.): Gold Movements and Price Fluctuations. (In *Banker*, March 1930.)

EDIE (L. D.): Gold Production and Prices before and after the World War. 1928. Indiana University. 136 pp.

EINZIG (P.): International Gold Movements. (In *Economic Journal*, Dec. 1928.)

——: Some new features of Gold Movements. (In *Economic Journal*, March 1930.)

——: Gold Supplement of *Financial News*, June 8th, 1931.

GAY (E. F.): The Gold Problem. (In *Foreign Affairs* (U.S.A.), Jan. 1931.)

GIDE (C.): De la stabilisation de l'or. (In *Recueil Mensuel de l'Institut International de Commerce*, Jan. 20th, 1930.)

Gold Holdings of the Principal Countries at the end of 1928. (In *Federal Reserve Bulletin*, April 1929.)

Gold Purchases and Sales: the need for standardization. (In *Midland Bank Monthly Review*, Sept.–Oct. 1920.)

Gold Production and the Price Level. (In *The Statist*, International Banking Section, Nov. 1930.)

Gold Storage and Industrial Depression. (In *Bankers' Magazine*, Nov. 1930.)
Comment on the Report of the Gold Delegation.

GREGORY (T. E.): The Gold Problem. (In *World Trade*, July 1929.)

GUIMARAES (D.): Der gegenwärtige Stand der Goldindustrie in Brasilien. (In *Internationale Bergwirtschaft*, Aug. 21st, 1929.)

HAMMOND (M.): The recent gold inflows from South America. (*U.S. Commerce Reports*, Oct. 13th, 1930.)

HEINIG (K.): Die Goldbilanz. 1925. Berlin. 30 pp.

HERMANN (K.): Die Zukunft des Goldes. 1925. Berlin. 180 pp.

Japan and the Gold Embargo. (In *Statist*, Oct. 9th, 1930.)

KEYNES (J. M.): Is there enough gold? (In *Nation*, Jan. 19th, 1929.)

——: Fine Gold *v.* Standard Gold. (In *Economic Journal*, Sept. 1930.)

KITCHIN (J.): Gold. Articles in the *Encyclopaedia Britannica*, 11th ed., vol. 12; 12th ed., vol. 31; 13th ed., pp. 240–1; 14th ed., vol. 17.

KITCHIN (J.): Gold Production, a survey and a forecast. (*Review of Economic Statistics*, July 1926 and May 1929.)

KNIGHT (W. L. P.): Gold and the Future. 1928. London. 112 pp.

LANGE (E.): Die Goldbewegungen in England, Frankreich, Russland, den Vereinigten Staaten von Amerika und Deutschland vom Kriegsausbruch bis zum Ende des Jahres 1927. 1927. Berlin. 79 pp.

LANSBURGH (C.): Das Gold und die Preis. (*Die Bank*, Oct. 25th, 1930.)

LEENER (G. de): La disparité des pouvoirs d'achat de l'or. (In *Revue de l'Institut de Sociologie*, July–Sept. 1930.)

LEHFELDT (R. A.): Controlling the Output of Gold. 1926. London. 31 pp.

LIESSE (A.): La question de l'or. (In *Économiste Français*, Aug. 3rd, 1929.)

LIVERSEDGE (A. S.): The Gold Question. (In *Fortnightly Review*, Feb. 1930.)

——: Gold Movements in 1930. (In *Bankers' Magazine*, June 1931.)

LLOYD (E. M. H.): Gold: is it to blame for the world-wide depression? (In *New Republic*, Nov. 5th, 1930.)

MONTAGU, SAMUEL, & Co. Annual Bullion Letter.

NOYES (C. R.): Gold Inflation in the United States, 1921–9. (In *American Economic Review*, June 1930.)

El problem mundial del oro. (*España económica y financiera*, Oct. 4th, 1930.)

La production de l'or de 1907 à 1927. (*Bulletin de statistique et de législation comparée*, Paris, 1929.)

La question de l'or en l'Extrême Orient. (*Bulletin de l'agence économique de l'Indochine*, March 1930.)

RIST (C.): La question de l'or. 1930. Paris. 50 pp.

SHIRRAS (G. F.): Gold and British capital in India. (In *Economic Journal*, Dec. 1929.)

SOULE (G.): Gold and the Industrial Depression. (In *New Republic*, Nov. 12th, 1930.)

STRAKOSCH (SIR H.): Gold and the Price Level. A memorandum on the economic consequences of changes in the value of gold. (*The Economist*, Supplement III, July 5th, 1930.)

STURZENEGGER (E.): The Rand Gold Mines. 1931. London.

United States: League Gold Report. (In *The Economist*, Nov. 4th, 1930.)
Reaction of United States bankers to the preliminary report of the Gold Delegation.

WESTERMAN (J. F. C.): The gold consignment. 1930. London. Oxford University Press. 254 pp.

WILLIAMS (J. H.): The Gold Problem. (*Proceedings of the American Academy of Political Science*, June 1931.)

WILLIS (H. P.): The Gold Position of the U.S.A. (In *The Banker*, June 1929; Sept. 1930.)

The World's Monetary Gold. (In *The Economist*, Oct. 11th, 1930.)

The World's Gold Supplies. (In *The Banker*, Nov. 1930.)

III. CENTRAL BANKS

BENZION (E.): Die Bank de France, deren Bedeutung für den Weltgeldmarkt und ihre Kooperation mit anderen Notenbanken. 1931. Baden. 47 pp.

BURGESS (W. R.): The Reserve Banks and the Money Market. 1927. New York. 328 pp.

CASSEL (G.): Der Einfluss der Bankpolitik auf das Preisniveau. (In *Skandinaviska Kreditaktiebolaget*, April 1931.)

——: The Functions of Central Banks. (In *Lloyds Bank Monthly Review*, March 1930.)

CLEGG (W. H.): Central Banking in South Africa. (In *Economic Journal*, Dec. 1929.)

DAVIDSON (A. C.): Central Reserve Banking. 1929. Sydney. 35 pp.

DECKERT (H.): Die Notendeckungsvorschriften der wichtigsten Zentralnotenbanken. 1926. Berlin. 80 pp.

DIERSCHKE (K.) and MÜLLER (E.): Die Notenbanken der Welt. 1926. Berlin.

EINZIG (P.): Gold Points and Central Banks. (In *Economic Journal*, Sept. 1929.)

KEMMERER (E. W.): The A.B.C. of the Federal Reserve System. 1926. Princeton. 211 pp.

GOLDENWEISER (E. A.): The Federal Reserve System in Operation. 1925. London. 349 pp.

GREGORY (T. E.): Central Bank Policy. 1926. Manchester. 30 pp.

KISCH (C. H.) and ELKIN (W. A.): Central Banks: a study of the constitutions of Banks of Issue, with an analysis of representative Charters. Rev. ed. 1930. Macmillan. 428 pp.

Appendices the only readily available source of information on the present gold requirements of central banks.

KISCH (C. H.): Recent developments in Central Banking. (In *The Banker*, Aug. 1928 and May 1930.)

KOCK (M. H. DE): The functions and operations of Central Banks, with special reference to the South African Reserve Bank. 1927. Capetown.

MLYNARSKI (F.): Gold and Central Banks. 1929. New York. 157 pp.

NEUMANN (R.): Die Politik der Bank von Frankreich seit 1914. 1926. Berlin. 114 pp.

POMMERY (L.): Les banques d'émission et le contrôle du marché monétaire. (In *Revue Économique Internationale*, Sept. 1929.)

REED (H. L.): Federal Reserve Policy, 1921–30. 1930. New York. 207 pp.

RIESSER (J.): Die Reichsbank unter Dr. Schacht. (*Bank-Archiv*, April 1st, 1930.)

ROBERTSON (D. H.): Banking policy and the price level. 1926. London. 109 pp.

SHAW (W. A.): Theory and Principles of Central Banking. 1930. London, 254 pp.

STRONG (B.): Interpretations of Federal Reserve policy: speeches and writings of Benjamin Strong, edited by W. R. Burgess. 1931. New York. 331 pp.

TIPPETTS (C. S.): State Banks and the Federal Reserve System. 1929. New York. 373 pp.

Umstrittene Reichsbankpolitik. Meinungsverschiedenheiten zwischen Enquetekommission und Reichsbank. (In *Der deutsche Ökonomist*, July 25th, 1929.)

VISSERING (G.): Post-War Central Banking Policy: its recent development in Holland. (In *The Banker*, April 1928.)

WARBURG (P. W.): The Federal Reserve System, its origin and growth. 2 vols. 1930. New York. 853, 899 pp.

WILLIS (H. P.): The Federal Reserve System. 1923. New York. 1,765 pp.

——: Federal Control of Investment Banking Urged: facts and proposed plans. (In *Annalist*, June 12th, 1931.)

IV. CURRENCY AND CREDIT

AFTALION (A.): Monnaie, prix et change. 1927. Paris. 353 pp.

ARNDT (E. H. D.) and others: Foreign banking systems. 1929. London. 1,305 pp.

The Banker (London). Monthly articles.

The Bankers' Magazine (London). Monthly articles.

Banking in England and Germany: some misunderstandings. (In *The Economist*, Nov. 30th, 1929.)

Banks and Currency Problems in Japan. (In *The Statist*, International Banking Section, Nov. 9th, 1929.)

BECKHART (B. H.): The banking system of Canada. 1930. New York. 206 pp.

BELLERBY (J. R.): Monetary stability. 1925. London. 174 pp.

BILIMOVIČ (A.): Kritische und positive Bemerkungen zur Geldwerttheorie. (In *Zeitschrift für Nationalökonomie*, 1931, Heft 3.)

BROWN (W. A.): England and the new gold standard, 1919 to 1926. 1929. London. 322 pp.

CAILLAUX (J.): France and the Gold Standard. (In *The Banker*, April 1928.)

——: Stabilization and its Consequences. (In *The Banker*, July 1928.)

——: Paris as an international financial centre. (In *The Banker*, Jan. 1930.)

——: The new problem of the franc. (In *The Banker*, Feb. 1930.)

CANNAN (E.): Money: its connexion with rising and falling prices. 1926. London. 120 pp.

CASSEL (G.): Money and Foreign Exchanges after 1914. 1925. London. 287 pp.

——: Post-War Monetary Stabilization. [Columbia University Lectures.] 1928. New York. 109 pp.

CASSEL (G.): The World's Monetary Problems. [Two memoranda originally prepared for the League of Nations, 1920 and 1921.] 1921. London. 154 pp.

——: The Gold Standard in 1929. (In *Skandinaviska Kreditaktiebolaget*, April 1930.)

CLAY (H.): The Gold Standard: its normal working and effect on British industry. (*Monthly Record*, March 31st, 1930.)

COLE (G. D. H.): Gold, Credit and Unemployment. 1930. London. 165 pp.

DAVIDSON (A. C.): The Gold Standard in Australia. (In *Australian Quarterly*, Dec. 1929.)

DAVIS (J.): World Currency Expansion during the War and in 1919. (In *Review of Economic Statistics*, Jan. 1920.)

Die deutschen Banken und die Weltwirtschaft. (*Magazin der Wirtschaft*, April 1930.)

Special number containing articles by Bonn, Fürstenberg, Prion, Palyi, &c.

DOWRIE (G. W.): American Monetary and Banking Policy. 1930. New York. 401 pp.

DULLES (E. L.): The French Franc, 1914 to 1928. 1929. New York. 570 pp.

EDIE (L. D.): Capital, the Money Market and Gold. 1929. Chicago. 53 pp.

FISHER (IRVING): Stabilizing the Dollar. 1925. New York. 305 pp.

——: Our unstable dollar and the so-called business cycle. (In *Journal of the American Statistical Association*, June 1925.)

FOSTER (W. T.) and CATCHINGS (W.): Money. 1923. Boston. 409 pp.

FRIDAY (D.): French Gold and World Credit. (In *Bankers' Magazine*, Nov. 1929.)

GREGORY (T. E.): The Return to Gold. 1925. London. 60 pp.

——: The First Year of the Gold Standard. 1926. London. 141 pp.

——: The Price Level and the Rate of Interest. (*Index* [Stockholm], May 1930.)

HAHN (L. A.): Geld und Kredit. 1929. Tübingen.

Collection of essays.

HANSEN (A. H.): Cycles of Prosperity and Depression in the United States, Great Britain, and Germany. [University of Wisconsin Studies.] 1921.

HARGREAVES (E. L.): Restoring Currency Standards. 1926. London. 104 pp.

HARTWIG (A.): Die Stabilisierung der südamerikanischen Währung und die Betätigung des nordamerikanischen Kapitals. (*Finanz-Archiv*, 1928.)

HAWTREY (R. G.): Currency and Credit. 3rd ed. rev. 1928. London. 487 pp.

——: The Gold Standard in Theory and Practice. 1927. London. 132 pp.

——: Monetary Reconstruction. 1926. London. 183 pp.

HAWTREY (R. G.): Money and Index Numbers. (In *Journal of the Royal Statistical Society*, 1930, vol. xciii, Part I, pp. 64–103.)

——: Trade and Credit. 1929. London. 190 pp.

HAYEK (F. A.): Prices and Production. 1931. London. 112 pp.
Four lectures.

HEILPERIN (M. A.): Le problème monétaire d'après-guerre et sa solution en Pologne, en Autriche et en Tchécoslovaquie. 1931. Paris. 286 pp.

HERZFELDES (E.): Kreditkontrolle: die Methoden der regulierten Währung und manipulierten Währung. 1930. Berlin. 302 pp.

IMHOF (R.): Die Rentenmark. Abschliessende Betrachtungen über 'das Wunder der Rentenmark' vom Standpunkt der ökonomischen Geldtheorie. 1928. Leipzig. 215 pp.

JACK (D. T.): The Economics of the Gold Standard. 1925. London. 88 pp.

KATZENELLENBAUM (S. S.): Russian Currency and Banking, 1914–24. 1925. London. 208 pp.

Kemmerer Commission recommends Gold Standard in China. (In *China Weekly Review*, March 30th, 1930.)

KERSCHAGEL (R.): Technik und Tendenzen der Goldwährungen der Nachkriegszeit. (*Bank-Archiv*, Oct. 30th, 1929.)

KEYNES (J. M.): Tract on Monetary Reform. 1924. London. viii+209 pp.

——: A Treatise on Money. 2 vols. 1930. London. xvii+363, viii+424 pp.

LAVINGTON (F.): The English Capital Market. 1921. London. 297 pp.

——: The Trade Cycle. 1922. London. 113 pp.

LAWRENCE (J. S.): Stabilization of Prices. 1928. New York. 484 pp.

LEHFELDT (R. A.): Gold Prices and the Witwatersrand. 1919. London. 130 pp.

——: Restoration of the World's Currencies. 1923. London. 157 pp.

LEURANCE (F.): La stabilisation du franc. 1926. Paris. 199 pp.

LINDSAY (S. M.) and MOON (P. J.): The Money Problem: Addresses and Papers. 1923. Columbia University.
Part II. The outlook for the gold standard. pp. 37–75.

MCKENNA (R.): Post-War Banking Policy. 1928. London: Heinemann. 150 pp.
Addresses collected.

——: Bank Liabilities and Bank Assets. (In *Midland Bank Monthly Review*, Jan.–Feb. 1929.)
Analysis of deposits and advances.

MARTIN (P. G.): La stabilisation et le retour à la monnaie d'or. 1925. Paris. 216 pp.

MENDES-FRANCE (P.): L'œuvre financière du gouvernement Poincaré. 1928. Paris. 316 pp.

MILLS (F. C.): The Behaviour of Prices. [National Bureau of Economic Research.] 1927. New York. 585 pp.

MITCHELL (W. C.): Business Cycles: the problem and its setting. 1927. New York.

The new Irish currency system. (In *Midland Bank Monthly Review*, Sept.–Oct. 1929.)

NIESSER (H.): Der internationale Geldmarkt vor und nach dem Kriege. (In *Weltwirtschaftliches Archiv*, April 1929, July and Oct. 1930.)

NOGARO (BERTRAND): Modern Monetary Systems. 1927. London. 248 pp.

NOYES (C. R.): Gold Inflation in the United States. (In *American Economic Review*, June 1930.)

PALYI (M.): Bankers' Balances (Amerikanische Bank- und Kreditpolitik). (In *Archiv für Sozialwissenschaft*, June 1931.)

PEDDIE (J. T.): The Flaw in the Economic System: the case against the gold standard. 1928. London. 264 pp.

PHILLIPS (C. A.): Bank Credit. 1921. New York. 118 pp.

PIGOU (A. C.): Industrial Fluctuations. 2nd ed. 1929. London. 426 pp.

POINCARÉ (R.): La réforme monétaire. Exposé des motifs du projet de loi monétaire. 1928. Paris. 188 pp.

RIEFLER (W. W.): Money Rates and Money Markets in the United States. 1930. New York. 259 pp.

RIST (C.): La déflation en pratique. (L'Angleterre, États-Unis, France, Tchécoslovaquie.) 1927. Paris. 172 pp.

——: The Problem of Gold and Prices: a picture of world economic conditions. [National Industrial Conference.] 1931. New York.

SACHS (H. I.): Ten Year Growth of Bankers' Acceptances. (*Financial and Commercial Chronicle*, New York, Dec. 21st, 1928.)

SCHACHT (H.): The Stabilization of the Mark. 1927. London. 247 pp.

SCHAUM (F.): Das französische Bankwesen. 1931. Stuttgart. ix+123 pp.
An account of the organization of the French banking system.

SCHMITZ (J.): Inflation *v.* Stabilisierung in Frankreich, 1914–1928. 1930. Bonn. 228 pp.

SERING (M.): Germany under the Dawes Plan. 1929. London. 262 pp.

SHANN (E. O. G.) and COPLAND (D. B.): The Crisis in Australian Finance. 1931. Sydney. 194 pp.
Documents on budgetary and economic policy.

SKANDINAVISKA KREDITAKTIEBOLAGET (Gothenburg): Quarterly Reports.

SQUIRE (E. C.): Australia off the Gold Standard. (U.S. Commerce Reports, March 1930.)

SOMARY (F.): Bankpolitik. 1930. Tübingen. 353 pp.

STROVER (C.): Monetary Reconstruction. 1922. Chicago.

SUBERCASEAUX (G.): The Gold Standard and South America. (In *American Economic Review*, June 1931.)

SURVEY OF AMERICAN FOREIGN RELATIONS. (C. P. Howland *ed.*) 1928. Yale University Press for Council on Foreign Relations, New York.
Section II, Ch. IV: *International implications of gold distribution.*

THORP (W. L.) and MITCHELL (W. C.): Business Annals (U.S.A., England, France, Germany, Austria, Russia, Sweden, Netherlands, Italy, Argentine, Brazil, Canada, South Africa, Australia, India, Japan, China). 1926. New York. 380 pp.

Tsushima (J.): A short account of Japan's return to the gold standard. (In *The Bankers' Magazine*, April 1930.)

Watkins (L. L.): Bankers' Balances: a study of the effects of the Federal Reserve System on banking relationships. 1929. Chicago. 445 pp.

Westerfield (R. B.): Banking Principles and Practice. 1924. New York. 826 pp.

Whale (P. B.): Joint Stock Banking in Germany. 1930. London. 370 pp.

Willis (H. P.): Stabilization: an American view. (In *The Banker*, Sept. 1928.)

Withers (Hartley): Meaning of Money. 1921. London. 240 pp.

INDEX

PRINTED IN GREAT BRITAIN AT THE UNIVERSITY PRESS, OXFORD
BY JOHN JOHNSON, PRINTER TO THE UNIVERSITY